3.0 REGULATORY SETTING

A wide range of overlapping laws, regulations, policies, plans, and programs are administered by federal, state, and local agencies to regulate the operation, maintenance, and monitoring of on-site wastewater treatment systems (OWTS) in California. This chapter presents a summary of those regulations. As described in Chapter 2.0, "Background and Project Description," Assembly Bill 885 requires that the State Water Resources Control Board (State Water Board) adopt statewide regulations or standards regarding OWTS. The technical sections that make up Chapter 4.0, "Environmental Analysis," present regulatory background relevant to those environmental issue areas.

3.1 OVERVIEW OF EXISTING FEDERAL AND STATE REGULATIONS AFFECTING OWTS

3.1.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

FEDERAL WATER POLLUTION CONTROL ACT

The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for managing water quality. The Federal Water Pollution Control Act of 1972 (also known as the Clean Water Act [CWA]) and its amendments and the Safe Drinking Water Act are the primary federal laws that govern and authorize EPA's actions to control surface water quality. Elements of the CWA addressing water quality and relevant to the regulation of OWTS are discussed below.

Water Quality Control Plans and Standards

Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. These water quality standards are contained in the water quality control plans (basin plans).

Water quality standards for a water body consists of its beneficial uses, water quality objectives to protect those uses, and an antidegradation policy that requires that, in water bodies with water quality better than water quality objectives, quality must be maintained at the higher water quality level. Where multiple uses for the water exist, water quality standards must protect the most sensitive use. As discussed in Chapter 4, California has similar requirements adopted in 1969. The State Water Board and its nine Regional Water Quality Control Water Boards (Regional Water Boards) are responsible for identifying beneficial uses and adopting applicable water quality objectives, including advisory water quality criteria, although EPA has oversight and promulgation authority as well.

Antidegradation Policy

The federal government established an antidegradation policy in 1968 (40 CFR 131.12). The policy is designed to protect existing beneficial uses of water and water quality. The federal policy directs states to adopt statewide policies that include the following primary provisions:

- existing instream uses and the water quality necessary to protect those uses shall be maintained and protected;
- where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and

- where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

Section 303(d) Impaired Waters List

As part of the State Water Board's mandate for this rulemaking, the State Water Board must establish requirements for OWTS adjacent to water bodies listed pursuant to CWA Section 303(d). Under Section 303(d) of the CWA, each state is required to develop a list of water bodies, or segments of water bodies, that do not attain water quality objectives for specific pollutants even after point-source dischargers (municipalities and industries) have installed the minimum required levels of pollution control technology. Section 303(d) requires that, for each water body listed, the states must develop a total maximum daily load (TMDL) for each of the listed pollutants. A TMDL is a calculation of the maximum amount of a pollutant that the water body can receive and still be in compliance with water quality standards. The Regional Water Board allocates portions of each pollutant's TMDL to its determined source or sources (a waste load allocation). The TMDL, therefore, consists of the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the water body can be used for the purposes the state has designated, such as swimming, drinking, and protecting wildlife habitat. It also must account for seasonal variation in water quality.

The process of developing TMDLs involves several steps, including describing the water quality problem addressed by the TMDL; detailing the sources of pollution; outlining pollution prevention, control, or restoration actions and who is responsible for implementing these actions; and ultimately amending the relevant basin plan. EPA must either approve a TMDL prepared by the Regional Water Board or, if it disapproves the proposed TMDL, issue its own. The National Pollutant Discharge Elimination System (NPDES) permit limits for listed pollutants in a 303(d)-listed area must be consistent with the waste load allocation prescribed in the applicable TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a water body on the Section 303(d) list would be remediated within a specified time period. The Section 303(d) list of impaired water bodies in California was last updated in 2006. Exhibits 3-1a through 3-1f (provided at the end of this chapter) identify the locations of those Section 303(d)-listed water bodies in California that are identified as being impaired by nutrients and/or pathogens, and where OWTS have been identified as contributing to the impairment. More detailed maps of these areas are included in Appendix E of this draft EIR.

3.1.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

PORTER-COLOGNE WATER QUALITY CONTROL ACT OF 1969

California's Porter-Cologne Water Quality Control Act (Porter-Cologne Act), part of the California Water Code, is California's statutory authority for the protection of water quality. Under the act, the state must adopt water quality policies, plans, and objectives that protect the state's waters for the use and enjoyment of the people. The act sets forth the obligations of the State Water Board and the nine Regional Water Boards pertaining to the adoption of basin plans and establishment of water quality objectives.

STATE WATER RESOURCES CONTROL BOARD

The State of California provides protection of water quality through the Porter-Cologne Water Quality Control Act. The State Water Board establishes policy and administers the budget and nine Regional Water Quality Control Boards. The State Water Board has primary responsibility for overseeing all the State's water regulations and standards, including water quality control plans and relevant water quality objectives and standards. As specified in the AB 885 legislation, the State Water Board has been designated the lead role in developing the statewide OWTS regulations.

REGIONAL WATER QUALITY CONTROL BOARDS

Each Regional Water Board has primary responsibility for designating the beneficial uses of water bodies within its region, establishing water quality objectives consistent with those beneficial uses, and for issuing permits and conducting enforcement actions to protect the beneficial uses. Numerical and narrative water quality objectives have been established to protect beneficial uses of water bodies. Water quality objectives are established in a basin plan for each of the nine regions. Permitting and enforcement are implementation tools for the Regional Water Boards for protection of the State's waters.

Regional Water Boards issue waste discharge requirements (WDRs), which are intended to regulate and monitor waste discharges to land and water and may include NPDES permits. WDRs are also issued for discharges of waste to surface waters as required by the CWA. WDRs issued to waste dischargers impose discharge restrictions and pollutant limitations that consider applicable federal and state water quality criteria for surface water, groundwater, and drinking water. The permit processes also consider the state's antidegradation policy, described below, which is intended to protect high-quality waters by setting criteria that must be met before a discharge is allowed that would reduce water quality and yet maintain beneficial uses. Unlike the CWA, which addresses only surface water, the Porter-Cologne Act is intended to protect both surface water and groundwater.

STATE ANTIDEGRADATION POLICY (RESOLUTION 68-16)

State Water Board Resolution No. 68-16 contains the state Antidegradation Policy, which is titled "Statement of Policy with Respect to Maintaining High Quality Waters in California." The State Water Board has interpreted Resolution No. 68-16, a predecessor to the federal policy, to incorporate the federal Antidegradation Policy where the federal policy applies (Order No. WQ 86-17). The state Antidegradation Policy applies more comprehensively to water quality changes than the federal policy. In particular, the state policy applies to all waters of the state, including both groundwater and surface water, whose quality meets or exceeds water quality objectives. The policy states that the disposal of wastes into state waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state and to promote the peace, health, safety, and welfare of the people of the state. The policy provides as follows:

a. Where the existing quality of water is better than required under existing water quality control plans, such existing high quality will be maintained until it has been demonstrated that any change will be consistent with maximum benefit to the people of the state and will not unreasonably affect present and anticipated beneficial uses of such water.

b. Any activity that produces waste or increases the volume or concentration of waste and that discharges to existing high-quality waters will be required to meet waste discharge requirements that will ensure (1) pollution or nuisance will not occur and (2) the highest water quality consistent with the maximum benefit to the people of the state will be maintained and will not result in water quality less than that prescribed in the policies.

WATER QUALITY CONTROL PLANS (BASIN PLANS)

Basin plans establish water quality objectives for protecting beneficial uses of water in California. Sections 13240–13247 of the Porter-Cologne Act specify that the basin plans shall include the following:

- water quality objectives that, in the judgment of the Regional Water Board, will ensure the reasonable protection of beneficial uses and the prevention of nuisance and

- a program of implementation for achieving water quality objectives, including a description of the nature of actions that are necessary to achieve the objectives, time schedules for the actions to be taken, and a description of surveillance to be undertaken to determine compliance with objectives.

Each of the nine Regional Water Boards has adopted a basin plan. The information provided in those plans is discussed and compared later in this chapter.

STATE POLICY ON SOURCES OF DRINKING WATER (RESOLUTION 88-63)

In 1988, the State Water Board adopted Resolution 88-63, "Sources of Drinking Water." This policy specifies that, except under specifically defined circumstances, all surface water and groundwater of the state are to be protected as existing or potential sources of municipal and domestic supply. The policy lists specific and limited circumstances under which waters may be excluded from this policy. The policy has been incorporated as part of each of the nine regional water quality control plans.

3.2 REPRESENTATIVE REGULATIONS OF SELECTED LOCAL GOVERNMENTS AND REGIONAL WATER QUALITY CONTROL BOARDS

Chapter 2, "Background and Project Description," explains that California currently has no statewide system of regulation that directly addresses the construction, operation, maintenance, and monitoring of OWTS. However, numerous California cities and counties and the Regional Water Boards regulate OWTS through a variety of means, including planning activities (both community and water quality) and permitting requirements. Circumstances vary among agencies, but enforcement of these regulations generally is the responsibility of the local environmental, building, or public health departments. Examples of local regulations related to OWTS are provided below.

The current state of OWTS regulations in California is characterized by separate and overlapping regional and local regulations established by the nine Regional Water Boards, 58 counties, and a variety of cities and special districts that administer OWTS requirements. To provide context for the evaluation of environmental impacts in this environmental impact report (EIR), a comparison of representative regulations will be useful. Given the large volume of agencies, each with its unique set of regulations, a comprehensive review of these regulations would be prohibitive. For the purposes of this EIR, 15 local agencies (counties and cities) and the nine Regional Water Boards were selected as a representative sample of the regulating agencies (see Tables 3-1a, 3-1b, and 3-2 at the end of this chapter). The agencies are geographically diverse, representing the north, south, east, west, coastal, and central regions of California. Recognizing that all jurisdictions have unique circumstances specific to the administration of OWTS in their areas, the sample includes jurisdictions with a range of unique physical, administrative, and regulatory conditions. For example, El Dorado County represents a jurisdiction with large areas of steep, difficult terrain; Merced County has a large number of inhabitants depending on groundwater for domestic water supply; and the City of Malibu and the Stinson Beach County Water District administer OWTS installed in fast-draining beach sands, some immediately adjacent to the ocean.

Several jurisdictions within California have established unique administrative arrangements to manage OWTS. Incorporated and unincorporated areas may set up county service areas or special districts, such as those established by the City of Chico in Butte County and the Community of Stinson Beach in Marin County. Several jurisdictions within California experience administrative challenges stemming from their remote location or remote areas within jurisdictional limits. Remoteness and small local government play into the approach used by Modoc and Inyo Counties where contracted professional services fill the administrative role.

Several local agencies have no sewers within their jurisdictions as a consequence of historical development (e.g., the City of Yucca Valley) or the intentional will of the citizens (e.g., the Cities of Malibu and Paradise).

Many California jurisdictions are predominantly rural, such as El Dorado and Sutter Counties. Los Angeles County, and the Cities of Malibu and Yucca Valley, in contrast, are intensively urbanized jurisdictions. Santa Cruz and Riverside counties represent jurisdictions that have areas representing both conditions within this spectrum. Several jurisdictions experience a strong pressure for urban development, regardless of existing

population densities within their jurisdictions; Sutter and Riverside Counties and the City of Paradise are three examples.

The California Plumbing Code (CPC) provides a fundamental basis for regulations pertaining to OWTS design, including percolation testing and flow projections from households and other establishments, and specifies the basic sizing and design features of leach lines and seepage pits. It also contains minimum setbacks from water bodies and buildings, a minimum depth of unsaturated soil below the disposal field, and other prescriptive requirements. Typically, local agencies derive their regulations using the CPC and most regulations remain predominantly prescriptive. However, the range and content of those prescriptive measures vary widely. For example, the many local ordinances prohibit construction of OWTS in areas with steep slopes, defined as slopes of 20% or steeper. The depth to a limiting layer (e.g., impermeable layer, ground water, fractured bedrock) also ranges extensively from more than 5 feet for conventional systems to less than 2 feet for supplemental treatment systems. Maximum allowable percolation rates typically may not be any slower than 60 to 240 minutes per inch, also a sizeable range.

Within the state, some regulations have had long periods of time pass before changing, in some cases decades, notably in Los Angeles and Riverside Counties and the City of Yucca Valley. Other regulations such as those of Merced County incorporate modest change more frequently. Regulations from Solano and Sutter Counties and the Cities of Malibu and Paradise reflect recently and substantially revised policies that address specific site or administrative issues and accommodate technological advances to resolve site constraints. Despite these differences, virtually all regulations of the local agencies listed in Tables 3-1a and 3-1b focus on the siting, design, and construction of OWTS for new construction. The repair of OWTS is addressed sporadically and with little consistency.

Operations and monitoring of conventional and supplemental systems are minimally addressed or completely absent in most areas of the state. A notable exception is Sonoma County, which addresses operating permits and monitoring wells in detail, especially for OWTS with supplemental treatment systems. Many local agencies may address operations and monitoring in other ways to a greater extent than exhibited in their OWTS policies. In these cases, individual OWTS permitting requirements address operations and monitoring.

Lot size limitations and OWTS prohibitions affect the distribution of OWTS. Seven of the Regional Water Boards identify specific OWTS prohibition areas (Table 3-1c). Merced and Santa Cruz Counties limit minimum lot sizes, as do the Central Coast, Lahontan, and Santa Ana Regional Water Boards. The Regional Water Boards typically establish prohibitions and OWTS implementation policies based on water quality objectives for groundwater and surface waters within discrete hydrologic and hydrogeologic units, as described in each Regional Water Board's basin plan. However, the Regional Water Board's policies governing OWTS as described in the basin plans can be brief and unspecific. Specific pollutants, such as nitrate or coliform bacteria, may drive the designation of impairment or prohibition areas.

The Regional Water Boards typically do not issue WDRs to smaller OWTS and do issue WDRs to OWTS that serve facilities with larger flows, although the cut-off point between implementation by the Regional Water Board and a local agency differs from Regional Water Board region to region. The Regional Water Boards' use of water quality objectives to regulate OWTS contrasts sharply with local agencies' generally prescriptive requirements. The water quality objectives typically translate into performance measures for discharge and receiving water quality with specific monitoring and reporting requirements to ensure that individual OWTS owners adhere to their permits.

Tables 3-1a and 3-1b provide a comparison of representative county and city OWTS regulations with the proposed regulations. Table 3-2 presents a comparison of relevant regulations of the nine Regional Water Boards with the proposed regulations.

3.3 LAND USE PLANNING AND ENVIRONMENTAL PROTECTION REGULATIONS

As described earlier in Section 3.1 and 3.2, an extensive set of federal, state, and local regulations govern OWTS and the protection or improvement of water quality in California. These regulations would be unaffected by implementation of the proposed regulations where they are more protective of water quality. The proposed statewide regulations would also provide improved protection of water quality in jurisdictions of the state where OWTS regulations are less protective of water quality than the proposed regulations.

The proposed OWTS regulations would supplement existing regulations. Local planning agencies would continue to be the primary controller of land use throughout the state. In addition, existing regulations designed to protect the environment would not be affected by implementation of the proposed OWTS regulations. This section briefly describes the existing land use planning process in California and its relation to environmental protection regulations.

3.3.1 LAND USE PLANNING

The discussion below summarizes the land use planning process in California and is based primarily on information contained in *Curtin's California Land Use and Planning Law* (Curtin and Talbert 2006). The land use planning process in California would be unaffected with implementation of the proposed regulations. For more information on land use planning in California, see Section 4.3, "Land Use and Planning."

Local jurisdictions receive the authority to exercise their respective land use planning functions through State of California planning laws. State laws that outline the legal framework within which a city or county must exercise its land use functions include the following list, which does not represent an exhaustive list of all applicable laws:

- local planning agencies, commissions, and departments (Government Code Section 65100 et seq.);
- the general plan and specific plan (Government Code Section 65300 et seq.);
- zoning regulations (Government Code Section 65800 et seq.);
- the Subdivision Map Act (Government Code Section 66410 et seq.); and
- the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (Title 14, California Code of Regulations Sections 15000–15387).

PLANNING COMMISSION

The planning commission is a permanent committee of five or more citizens who have been appointed by the city council to review and act on matters related to planning and development. (For unincorporated communities, the planning commission would serve the local county jurisdiction.) The commission holds regularly scheduled public hearings to consider land use matters, such as the general plan, specific plan, rezonings, use permits, and subdivisions. Depending on local ordinances, local commissioners may serve at the pleasure of the city council, so that commission membership changes in response to changes in the council, or they may serve for a fixed term. A city need not create a planning commission. In some jurisdictions, especially smaller ones, the city council acts as the planning commission. Typically, the planning commission advises the city council on land use matters. The city council may follow the recommendation of the commission, may reverse or modify the commission action, or may send the project back to the commission for further review. All commission decisions are subject to appeal to the council, and the council has the final say in all city matters. The city's community development or planning department is the planning commission's staff.

For the most part, state law requires public hearings before planning actions are taken. The planning commission considers planning proposals in light of federal, state, and local regulations and potential environmental effects, and receives testimony from citizens and other interested parties at the meetings. Pursuant to the Ralph M. Brown Act (also known as the Open Meeting Act or the Brown Act, Government Code Section 54950), all planning commission meetings must be open and public, including study sessions and workshops. This means that a quorum of commissioners can discuss commission business in a public meeting only.

GENERAL PLAN

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of the city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning. The general plan shall consist of seven mandatory elements—land use, circulation, housing, conservation, open space, noise, and safety—and any optional element(s) that the city or county chooses to adopt. In addressing these topics, the general plan shall consist of a "statement of development policies" and must include diagrams and text setting forth "objectives, principles, standards, and plan proposals." (Government Code Section 65302) The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period. Finally, although the general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow for flexibility in the approach taken to achieve the plan's goals.

The preparation, adoption, and implementation of a general plan serve to:

- identify the community's land use, circulation, housing, environmental, economic, and social goals and policies as they relate to land use and development;
- provide a basis for local government decision making, including decisions on development approvals and exactions;
- provide citizens with opportunities to participate in the planning and decision-making processes of their community; and
- inform citizens, developers, decision makers, and other cities and counties of the ground rules that guide development within the community.

Thus, the general plan provides a two-way connection between community values, visions, and objectives and the planned physical development within a community (e.g., construction of subdivisions and public works projects).

The adoption of a general plan or any amendments thereto generally must follow the procedure set forth in Government Code Section 65350 et seq. If a city has a planning commission, at least one public hearing must be conducted by the planning commission and then one public hearing by the city council after proper notice has been given.

SPECIFIC PLAN

The specific plan is a step below the general plan in the land use approval hierarchy and is used for the systematic implementation of the general plan for particular geographic areas (Government Code Section 65450). Zoning ordinances, subdivisions, public works projects, and development agreements all must be consistent with the adopted specific plan (Government Code Sections 65455 and 65867.5).

A specific plan must include all of the following in detail in both text and diagram(s):

- distribution, location, and extent of the uses of land, including open space, within the area covered by the plan;

- proposed distribution, location, extent, and intensity of major components of public and private infrastructure and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan;

- standards and criteria by which development will proceed, and applicable standards for conservation, development, and use of natural resources; and

- a program of implementation measures including regulations, programs, public works projects, and financing measures necessary to carry out the matters listed above.

The specific plan also must include a statement of the relationship of the specific plan to the general plan. The procedure for adoption of a specific plan is basically the same as for a general plan. Government Code Section 65457, with certain exceptions, exempts residential development projects from further CEQA review if they are undertaken to implement and are consistent with a specific plan for which an EIR has been certified.

ZONING REGULATIONS

The state zoning law (Government Code Section 65800 et seq.) provides for the "adoption and administration of zoning laws, ordinances, rules, and regulations by counties and cities, as well as implement[ation] of such general plan as may be in effect in any such county or city." Zoning is basically the division of a city or county into districts and the application of different regulations in each district. Zoning regulations are generally divided into two classes: (1) those that regulate the height or bulk of buildings within certain designated districts—in other words, those regulations that have to do with structural and architectural design of the buildings; and (2) those that prescribe the uses of buildings within certain designated districts. The California State Legislature has given cities maximum control over zoning matters while ensuring uniformity of, and public access to, zoning and planning hearings.

Zoning ordinances must be consistent with the general plan and any applicable specific plan (Government Code Section 65860[a]). When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure the land uses designated in the general plan would also be allowable by the zoning ordinance (Government Code Section 65860[c]).

A city council or county board of supervisors can approve, or approve as modified, a proposed zoning ordinance or amendment at a noticed public meeting, with certain requirements (Government Code Sections 25131, 36934, and 65850).

VARIANCES AND CONDITIONAL USE PERMITS

Variances and conditional use permits (CUPs) are methods by which a property owner may seek relief from the strict terms of a comprehensive zoning ordinance. Just as the amendment of a zoning regulation is a legislative function, the granting of variances and use permits are quasi-judicial, administrative functions. Variances and use permits are site specific.

A variance is a permit issued to a landowner by an administrative agency (zoning administrator, board of zoning adjustment, planning commission, or the city council acting as an administrative agency) to construct a structure not otherwise permitted under the zoning regulations. An application for a variance must address circumstances surrounding the applicant's situation that are unique in that they create disparities between the applicant's property and other properties in the area. The unique circumstances must cause hardship to the property owner to justify the authorization for a variance. Unique circumstances may be related to the parcel size, shape,

topography, location, or surroundings (Government Code Section 65906). A variance must be consistent with the objectives of the general plan and the zoning ordinance.

A CUP is the second administrative method of providing relief from the strict terms of a comprehensive zoning ordinance. State zoning law is silent on establishing any criteria for issuing or denying a CUP, which is evaluated based on local ordinances (Government Code Section 65901). Typically, following a list of permitted uses in each zone, a local zoning ordinance will provide for other uses that are not permitted as a matter or right, but that could be allowable with issuance of a CUP.

SUBDIVISION MAP ACT

The Subdivision Map Act (Map Act) vests in the legislative bodies of local agencies the power to regulate and control the design and improvement of subdivisions (Government Code Section 66411). Each city or county must adopt an ordinance regulating and controlling subdivisions for which the Map Act requires a tentative and final or parcel map. The Map Act's primary goals are:

- to encourage orderly community development by providing for the regulation and control of the design and improvement of the subdivision, with a proper consideration of its relation to adjoining areas;
- to ensure that the areas within the subdivision that are dedicated for public purposes will be properly improved by the subdivider so that they will not become an undue burden on the community; and
- to protect the public and individual transferees from fraud and exploitation (61 Opinions of California Attorney General 299, 301 [1978]; 77 Opinions of California Attorney General 185 [1994]).

The Map Act is applied in conjunction with other state land use laws such as the general plan and the specific plan, zoning, CEQA, and the Permit Streamlining Act (Government Code Section 65920 et seq.).

A subdivision is defined in the statute as "the division, by any subdivider, of any unit or units of improved or unimproved land, or any portion thereof, shown on the latest equalized county assessment roll as a unit or as continuous units, for the purpose of sale, lease, or financing, whether immediate or future" (Government Code Section 66424).

The Map Act distinguishes between a subdivision consisting of five or more parcels and one consisting of four or fewer parcels. In general, a subdivision of five or more parcels requires a tentative and a final map; a subdivision of four or fewer requires only a parcel map.

The Map Act contains detailed provisions governing the content and form of the final map. Government Code Section 66433 et seq. establishes the persons who are qualified to prepare the final map, the standard for preparation, and the various certificates and acknowledgments required for the final map. Parcel map procedures and approvals are left up to the local ordinance, except as specifically provided in the Map Act (Government Code Section 66463[a]). Approval of a final map or parcel map does not in itself confer a vested right to develop. No vested right to develop exists until actual building or other permits for identifiable buildings have been issued and substantial work has been done thereafter in reliance on those permits.

In 1984, the California State Legislature added Chapter 4.5, "Development Rights," to the Map Act; this statute established a new form of tentative map for subdivisions in the state: the vesting tentative map. (Government Code Section 66498.1 et seq.) The approval of a vesting tentative map expressly confers a vested right to proceed with a development in substantial compliance with the ordinances, policies, and standards in effect at the time the application for approval of the vesting tentative map is deemed complete (Government Code Section 66498.1[b]).

Before a tentative map or a parcel map is approved, the city or county must find that the proposed subdivision, together with the provisions for its design and improvement, is consistent with the general plan and any applicable

specific plan. If the local jurisdiction makes any of the following findings with respect to a tentative map or a parcel map, it must deny approval of the map (Government Code Section 66474):

- The proposed map or the design or improvements of the proposed subdivision are inconsistent with the applicable general and specific plans, or with a draft general plan being prepared under an extension by the Governor's Office of Planning and Research.

- The site is not physically suited for the proposed type or density of development. Where such a finding has been made, the legislative body may approve the map on conditions that will reduce the density.

- The design or proposed improvements are likely to cause substantial environmental damage, or substantially and avoidably injure fish, wildlife, or their habitats, or cause serious public health problems, based on an analysis of the project as part of the environmental compliance process (e.g., the conclusions presented in an EIR prepared for the project).

With regard to the environmental review process for a project involving construction of a subdivision, if the EIR identifies negative impacts, the city or county may impose conditions to mitigate those impacts based on Government Code Section 66474(e). The imposition of mitigating conditions is grounded in the theory that the power to reject for a given impact implies the power to accept with conditions that would prevent that impact.

3.3.2 ENVIRONMENTAL PROTECTION REGULATIONS

The proposed statewide regulations provide minimum standards for siting, construction, operation, and maintenance of OWTS in California. The process by which local agencies approve a project that includes construction and operation of an OWTS is a local land use and development process that would remain unchanged by the proposed regulations. Other regulations designed to protect the environment would be unaffected by implementation of the proposed regulations. This subsection provides an overview of the more important federal, state, and local laws and regulations that protect the environment of California. In addition to those designed specifically to protect water quality that are described in Section 3.1, these laws and regulations would continue to guide the construction and operation of projects in California, including OWTS.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA requires government agencies to consider the environmental consequences of their actions before approving plans and policies or committing to a course of action on a project. The CEQA process is intended to: (1) inform government decision makers and the public about the potential environmental effects of proposed activities; (2) identify the ways that environmental damage can be avoided or significantly reduced; (3) prevent significant, avoidable environmental damage by requiring changes in projects, either by the adoption of alternatives or imposition of mitigation measures; and (4) disclose to the public why a project was approved if that project would have significant environmental effects (Public Resources Code Sections 21000 and 21001).

Consistent with these purposes, CEQA applies to most state, regional, and local agency decisions to carry out, authorize, or approve projects that could have adverse effects on the environment. CEQA requires that public agencies inform themselves about the environmental effects of proposed actions, consider all relevant information before they act, give the public an opportunity to comment on the environmental issues, and avoid or reduce potential harm to the environment when feasible.

To ensure their validity, an agency's actions should comply with CEQA's statutory provisions as well as the state environmental guidelines that have been adopted by the Secretary of Resources and incorporated into the State CEQA Guidelines (Title 14 of the California Code of Regulations, Section 15000 et seq.).

The CEQA process begins with a preliminary review of the proposal to determine whether CEQA applies to the agency action, or whether the action is exempt (State CEQA Guidelines Sections 15060–15061). If the agency determines that the activity is not subject to CEQA, it may file a notice of exemption and no further action to comply with CEQA is required (State CEQA Guidelines Sections 15061 and 15062). If the agency determines that the activity is a project subject to CEQA, the agency then must prepare either an EIR or a negative declaration.

LAND USE

See Section 3.3.1, above, for a description of the regulatory process associated with land use and planning in California.

AGRICULTURAL RESOURCES

The federal Farmland Protection Policy Act (FPPA) was enacted to minimize federal contributions to the conversion of farmland to nonagricultural uses by ensuring that federal programs are administered in a manner compatible with state government, local government, and private programs designed to protect farmland. The FPPA established the Farmland Protection Program (FPP) and the Land Evaluation and Site Assessment (LESA) system. The FPP is a voluntary program that provides funds to help purchase development rights to keep productive farmland in agricultural uses. The LESA system helps state and local officials make sound decisions about land use and accurately ranks lands for suitability and inclusion in the FPP. LESA evaluates several factors, including soil potential for agriculture, location, market access, and adjacent land use. These factors are used to rank land parcels for inclusion in the FPP based on local resource evaluation and site considerations. The LESA system classifies land based on 10 soil and climatic characteristics. The California Department of Conservation (CDC) augmented that program in 1980 by initiating a system of inventorying, mapping, and monitoring the acreage of farmland in California. The CDC inventory system was designed to document how much agricultural land in California was being converted to nonagricultural land or transferred into Williamson Act contracts.

The California Land Conservation Act, also known as the Williamson Act, was enacted to provide landowners and local governments with a strategy to protect open space and agricultural lands while integrating long-term planning and growth patterns. Under a Williamson Act contract, the property owner is guaranteed that the property would be taxed according to its potential agricultural income, as opposed to the maximum valued use of the property, such as for residential development.

State Farmland Security Zones (FSZs) were established by the CDC with the same intent as Williamson Act contracts. An FSZ must be located in an Agricultural Preserve (area designated as eligible for a Williamson Act contract) and designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. Agricultural and open space lands are protected for a minimum of a 20 year term under an FSZ designation and receive an even greater property tax reduction than a Williamson Act valuation. Land protected in an FSZ cannot be annexed by a city or county government or school district.

An FSZ can be terminated through a nonrenewal or cancellation. The nonrenewal allows for a rollout process to occur over the remainder of the term of the contract, where the tax rates would gradually rise to the full rate by the end of the 20-year term. A cancellation must be applied for and approved by the director of the CDC, and specific criteria must be met. The cancellation must be in the public interest and consistent with the Williamson Act criteria.

In addition to local policies that support the protection and discourage the premature conversion of agricultural land, some jurisdictions adopt right-to-farm ordinances to conserve and protect agricultural land and protect agricultural landowners from nuisance complaints related to cultivation, irrigation, spraying, fertilizing, and other activities related to normal agricultural operations. The focus of the ordinance is to reduce the loss of agricultural

resources in the City by clarifying the circumstances under which agricultural operations may be considered a nuisance.

POPULATION, EMPLOYMENT, AND HOUSING

As with land use, regulatory guidance regarding population, employment, and housing is provided primarily by local planning documents. The policies, regulations, and ordinances presented in those documents address such issues as the provision of housing sufficient to support the current and projected local population at a range of income levels; the establishment, maintenance, and expansion of particular types of development in specific areas; the density of development; and the balance between employment-generating development and housing development.

TRANSPORTATION

The California Department of Transportation (Caltrans) establishes performance standards that apply to specific routes and publishes those standards in transportation concept reports (TCRs). Performance standards in TCRs are often expressed as level-of-service (LOS) standards. Caltrans establishes reasonable LOS standards for state highway facilities, based on current operating conditions, surrounding land uses, local policies, and current plans for improvement on the facility. Local agencies typically identify LOS standards for roadways in the agencies' jurisdiction.

AIR QUALITY

Air quality in California is highly regulated. At the federal level, the Clean Air Act (CAA) required EPA to establish primary and secondary National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. The CAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The CAA also required EPA to promulgate national emissions standards for hazardous air pollutants (NESHAP). The CAA required EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, addressing at a minimum benzene and formaldehyde.

The California Air Resources Board (ARB) is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, required ARB to establish California ambient air quality standards (CAAQS). In most cases, the CAAQS are more stringent than the NAAQS. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and areawide emission sources, and provides districts with the authority to regulate indirect sources. In California, toxic air contaminants (TACs) are regulated primarily through the Tanner Air Toxics Act and the Air Toxics Hot Spots Information and Assessment Act of 1987. The Tanner Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB can designate a substance as a TAC.

On a regional level, air quality control districts or air quality management districts attain and maintain air quality conditions in the region through comprehensive programs of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean-air strategies typically include the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. Air pollution control or management districts also may adopt and enforce ARB's control measures regarding TACs. For example, under the Yolo-Solano Air Quality Management District's (YSAQMD's) Rule 3-1 ("Permit Requirements"), Rule 3-4 ("New Source Review"), and Rule 3-8 ("Federal Operating Permit"), all sources that possess the potential to emit TACs are required to obtain permits from the district. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations.

Policies in general plans and other local planning documents typically support such actions as development of a local circulation system that encourages and accommodates the use of transportation modes other than the automobile; the construction of new development that incorporates the infrastructure, facilities, and design standards necessary to encourage and accommodate transit, ridesharing and nonautomobile travel modes; development and implementation of a local transportation system management ordinance applicable to major projects and employers; and separation of sensitive land uses from significant sources of air pollutants or odor emissions.

NOISE

Title 24 of the California Code of Regulations establishes standards governing interior noise levels that apply to all new residential units in California. In addition, the State of California has developed land use compatibility guidelines for community noise environments. The State of California General Plan Guidelines provides guidance for the acceptability of projects within specific community noise equivalent level (CNEL)/Ldn contours. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

Local policies regulating noise often provide more detailed, and sometimes more restrictive, regulations on noise levels and acceptable means of reducing them to an acceptable level. Noise ordinances identify performance standards intended to prevent any use that may create dangerous, injurious, noxious, or otherwise objectionable conditions.

PUBLIC SERVICES

Typically, regulations regarding public services are presented in local planning documents and relate to a broad range of issues, including the provision of adequate fire-flow rates in new development; the assurance that fire equipment access is integrated into the design of new facilities; the assurance that emergency access is an integral part of the design of all public facilities for the safety of users and workers; the assurance that public facilities and services (such as water, sewer, and emergency services) are available before occupancy of residential projects; the assurance that new development is provided all necessary water service, fire hydrants, and roads consistent with Fire Department Standards; the assurance that all new development is constructed according to fire safety and structural stability standards contained in the latest adopted California Fire and Building Codes and related high-rise regulations; the provision and maintenance of an adequate level of police and fire department equipment and personnel consistent with city growth and development; and the adequate provision of parkland.

PUBLIC UTILITIES

Section 21151.9 of the Public Resources Code and Section 10910 et seq. of the Water Code require the preparation of water supply assessments for large developments (i.e., more than 500 dwelling units or nonresidential equivalent) to determine whether existing and projected water supplies are adequate to serve the projects while also meeting existing urban and agricultural demands and the needs of other anticipated development in the service area in which the project is located. Where a water supply assessment concludes that insufficient supplies are available, the assessment must lay out the steps that would be required to obtain the necessary supply.

Section 15155 of the State CEQA Guidelines requires that local agencies must have sufficient information about the availability of water supplies when they decide whether to approve projects. Section 15155 requires the city or county to consult with water agencies to approve the tentative map to obtain written verification of sufficient water supply for proposed residential development of more than 500 units if the public water system would have at least 5,000 service connections and for proposed residential development that would increase by 10% or more

the number of the public water system's existing service connections if the system has fewer than 5,000 connections.

The determination of sufficiency is required to consider the availability of water supplies over a historical record of at least 20 years; the applicability of an urban water shortage contingency analysis prepared pursuant to Section 10632 of the Water Code that includes actions to be undertaken by the public water system in response to water supply shortages; the reduction in water supply allocated to a specific water use sector pursuant to a resolution or ordinance adopted, or a contract entered into, by the public water system; and the amount of water that the water supplier can reasonably rely on receiving from other water supply projects, such as conjunctive use, reclaimed water, water conservation, and water transfer.

The written verification must provide evidentiary proof of the water supply. In most cases, the water supply assessment prepared under SB 610 would meet that requirement.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of by transformation (e.g., incineration, distillation, gasification, or biological conversion other than composting) and land disposal, the state legislature passed the California Integrated Waste Management Act (CIWMA) of 1989 (Assembly Bill 939), effective January 1990. According to the CIWMA, all cities and counties were required to divert 25% of all solid waste from landfill facilities by January 1, 1995, and 50% by January 1, 2000. Each city is required to develop solid waste plans demonstrating integration with the CIWMA plan and the applicable county plan. The plans must promote (in order of priority) source reduction, recycling and composting, and environmentally safe transformation and land disposal. Disposal of pumped septage is subject to the state's landfill regulations or the federal government's regulations contained in Part 503 of Title 40 in the Code of Federal Regulations where it is applied to land.

GEOLOGY AND SOILS

In October 1977, the U.S. Congress passed the federal Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States. To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA) by refining the description of the agency responsibilities, program goals, and objectives.

The mission of NEHRP includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through postearthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results. The NEHRPA designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns several planning, coordinating, and reporting responsibilities. Other NEHRPA-participating agencies include the National Institute of Standards and Technology, National Science Foundation, and U.S. Geological Survey (USGS).

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The main purpose of the law is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The law addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. The Alquist-Priolo Act requires the State Geologist to establish regulatory zones known as "Earthquake Fault Zones" around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning efforts. Local agencies must regulate most development projects in the zones, including all land divisions and most structures intended for human occupancy.

The Seismic Hazards Mapping Act, passed by the California state legislature in 1990, addresses earthquake hazards from nonsurface fault rupture, including liquefaction and seismically induced landslides. The act established a mapping program for areas that have the potential for liquefaction, landslide, strong ground shaking, or other earthquake and geologic hazards.

California Uniform Building Code

The State of California provides minimum standards for building design through the California Building Standards Code (California Code of Regulations, Title 24). Where no other building codes apply, Chapter 29 regulates excavation, foundations, and retaining walls. The California Uniform Building Code (UBC) also applies to building design and construction in the state and is based on the national UBC used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). To reflect California conditions, the California UBC has numerous regulations that are more detailed or more stringent than those in the national UBC.

The state earthquake protection law (California Health and Safety Code Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the California UBC. The California UBC identifies seismic factors that must be considered in structural design.

Chapter 18 of the California UBC regulates the excavation of foundations and retaining walls, and Appendix Chapter A33 regulates grading activities, including drainage and erosion control, and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

HAZARDS

At the federal level, the principal agency regulating the generation, transport, treatment, storage, and disposal of hazardous substances is the U.S. Environmental Protection Agency (EPA), under the authority of the Resource Conservation and Recovery Act (RCRA). Individual states may implement their own hazardous substance management programs as long as they are consistent with, and at least as strict as, RCRA. EPA must approve state programs implementing the RCRA requirements.

EPA regulates hazardous substance sites under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). Applicable federal regulations are outlined primarily in Titles 29, 40, and 49 of the Code of Federal Regulations (CFR).

The Occupational Safety and Health Administration (OSHA) is the agency responsible for ensuring worker safety. OSHA sets federal standards for training in the work place, exposure limits, and safety procedures in the handling of hazardous substances. OSHA also establishes criteria by which each state can implement its own health and safety program.

Several state agencies regulate the transportation and use of hazardous materials to minimize potential risks to public health and safety. The California Environmental Protection Agency (Cal/EPA) and the Office of Emergency Services (OES) establish rules governing the use of hazardous substances in California. Within Cal/EPA, the Department of Toxic Substances Control (DTSC) has primary responsibility, with delegation of enforcement to local jurisdictions, for regulating the generation, transport, and disposal of hazardous substances under the authority of the Hazardous Waste Control Law (HWCL). Regulations implementing the HWCL list hazardous chemicals and common substances that may be hazardous; establish criteria for identifying, packaging, and labeling hazardous substances; prescribe management of hazardous substances; establish permit requirements for hazardous substances treatment, storage, disposal, and transportation; and identify hazardous substances prohibited from landfills.

The California Highway Patrol and California Department of Transportation (Caltrans) enforce regulations specifically related to hazardous materials transport. Individual regional water quality control boards (Regional

Water Boards) are the lead agencies responsible for identifying, monitoring, and cleaning up leaking underground storage tanks (USTs). The results of environmental site assessments, such as those prepared for the proposed project, are provided to DTSC for concurrence and to obtain recommendations for further investigation. State regulations applicable to hazardous substances and hazardous waste regulations are outlined in Titles 22 and 26 of the California Code of Regulations (CCR).

The California Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing work place safety regulations in the state. Cal/OSHA regulations concerning the use of hazardous substances include requirements for safety training, availability of safety equipment, hazardous substances exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous substances, describing the hazards of chemicals, and documenting employee training programs.

Table 3-1a
Comparison of OWTS Regulations in Counties Throughout California

Regulatory Elements	Proposed Project	El Dorado County	Inyo County	Los Angeles County	Mendocino County	Merced County	Riverside County	Santa Cruz County	Solano County
Point 1: Minimum Operating Requirements									
General requirements: Siting and design, construction, performance requirements and maintenance	• Tank performance standards: o Secure access opening and watertight risers o 3/16-inch mesh effluent filter o IAPMO-approved tanks • General effluent dispersal standards o Aerobic conditions in unsaturated zone • O&M manual • Record plan • Qualified professionals requirements: o Soils and site evaluation and design o Applies to all new OWTS and new and existing OWTS with the capacity to treat over 3,500 gpd that has been relocated, expanded, repaired, or replaced • STS Performance o 30 mg/l BOD, 30 mg/l TSS, 10 mg/l TN-N, 10 MPN total coliform if sand (1-10 mpi) or 1,000 MPN if >10 mpi. o Periodic performance evaluation	• Tank performance standards: o Effluent filter required o Two 20-inch risers o 2 compartments • General standards provided for siting, design, and construction including conditions requiring special design, such as STS • Standards for pump systems • Qualified professionals requirements: for design (registered civil engineer, geologist or environmental health specialist or certified soil scientist) and construction (Class A, B-1, or C-42 licensed contractor) • STS required if percolation >60 mpi or less than 5 mpi	• Must first notify county of intended discharges • County must approve construction of facilities for wastewater discharge • STS may be used on a case-by-case basis and with regional water board or County Environmental Health Services approval using siting and emergency contingency plans • Residential land use density dictates applicability of OWTS • OWTS prohibited on lots smaller than ½ acre	• Tank performance standards o Two 20-inch risers o 2 compartments • Prescriptive measures follow a modified Uniform Plumbing Code • Qualified professionals required for design of new construction and some repairs	• Qualified professionals requirements for design • General standards provided for siting, design, and construction • STS required for repairs with less than 12 inches to groundwater or bedrock	• Tank sizing and performance standards o Two 20-inch risers o Two compartments • 5 feet of continuous unsaturated soil for leach lines and 10 feet for pits • General standards provided for siting, design, and construction • Qualified professionals required o for site evaluation, design, and installation of conventional systems as approved by environmental health or licensed by the state o for STS design – registered geologist, engineer, or environmental health specialist • STS required for new, larger subdivisions with OWTS • STS required where poor percolation rates, slopes greater than 20%, and for treatment from more than one residence	• Tank performance standards: o Secure access opening and watertight risers o 1/8-inch mesh effluent filter • Qualified professionals requirements: Registered environmental health specialist or registered civil engineer for testing and design • Percolation test requirements • Qualified service provider required for operation and maintenance • Operating permit required for STS with pumping schedule, proof of ongoing maintenance at least every 3 months and maintenance agreement	• Septic tank must have risers • Designed by registered environmental health specialist, geologist, or civil engineer • Lot size limitations apply, typically 1 acre • O&M manual required for STS • STS required when o A repair cannot otherwise meet requirements using a standard systems o For OWTS in soils with 1–5 mpi percolation rate o Nitrate must be reduced in the effluent	• Septic tank o Must be able to accommodate an effluent filter o Two 20-inch risers • Qualified professionals requirement: o Siting and design must be prepared by a civil engineer, geologist, environmental health specialist, or certified professional soil scientist o For STS, must use a registered civil engineer or environmental health specialist • STS Performance o 240,000/100 mL total coliform or 2.2 MPN/mL fecal coliform from monitoring well o STS required where nitrate elevated in soil or groundwater
Dispersal System Standards and Requirements	• Installation at shallowest practicable depth for new OWTS • Soil texture or percolation test allowed as the basis for sizing the dispersal field • 3-foot minimum depth to groundwater or impermeable layer for conventional OWTS; 2-foot minimum for supplemental OWTS • Allowance for using special engineered fill for minimum depth. • Limits for rocky soils, pressure distribution may be required; minimum soil depth increases	• Standards for materials, spacing, depth, and size of conventional leach lines • Soil texture or percolation test allowed as the basis for sizing the dispersal field • Setbacks to water bodies and buildings • 4 feet of continuous unsaturated soil below disposal field • Allowance for using a soil cap of fill with specified texture and depth fill • Standards for pressurized distribution	• All discharges must be confined to subsurface percolation without nuisance, pollution, or contamination • Only use of percolation test allowed • Typically install on slopes < 30% • Low-permeability soils may prohibit use of OWTS • 5-foot minimum depth to groundwater or impermeable layer for conventional OWTS • Setbacks per the Lahontan Regional Water Board	• Prescriptive measures follow a modified Uniform Plumbing Code • Only use of percolation test allowed • Setbacks to water bodies, water lines, and buildings • Seepage pits allowed • 0.7 reduction factor allowed for gravelless chambers	• 2–3 feet of continuous unsaturated soil • Standards for materials, spacing, depth, and size of conventional leach lines • Soil texture or percolation test allowed as the basis for sizing the dispersal field • Leach fields, subsurface drip dispersal, and at-grade mounds allowed	• 5 feet of continuous unsaturated soil • Setbacks to water bodies, buildings, and property lines • Both soil characterization and percolation test are required for siting and sizing the dispersal field	• 5 feet of continuous unsaturated soil to groundwater and 8 feet to an impermeable layer for leach lines • 10 feet of continuous unsaturated soil to groundwater and 8 feet to an impermeable layer for seepage pits • Only percolation tests allowed for sizing dispersal system • Setbacks to water bodies, water lines, and buildings • Seepage pits allowed • Specific mound system requirements	• 5–50 feet of continuous unsaturated soil depending on the percolation rate • Percolation test must be used to size the dispersal system • Setbacks and slope restrictions apply • Seepage pits allowed	• 3–20 feet to groundwater and 3–5 feet to other limiting factor depending on the percolation rate • Soil texture or percolation test allowed as the basis for sizing the dispersal field • Limit on percentage of rock in soil set at 50% • Seepage pits not allowed • 0.7 reduction factor allowed for gravelless chambers • Evapotranspiration system not allowed

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Regulatory Elements	Proposed Project	El Dorado County	Inyo County	Los Angeles County	Mendocino County	Merced County	Riverside County	Santa Cruz County	Solano County
	• Standards allowing drip dispersal • Seepage pits limited to sites unsuitable for other dispersal systems; separation to groundwater reduced if supplemental treatment used • At least 6 inches of soil cover • Vehicle drives not permitted over dispersal system • 0.7 reduction factor allowed for gravelless chambers • Evapotranspiration system design must accommodate 25-year precipitation event	• Standards for steep slopes • Leach lines must use serial distribution with distribution boxes • Gravelless systems may count sidewall • No provision for seepage pits • No provision for subsurface drip dispersal separate from an STS	• Seepage pits allowed				• Adjustments for rocky soils		
Point 2: Requirements for Impaired Waters									
These requirements apply to OWTS within the watersheds of impaired water bodies as listed under Section 303(d) of the Clean Water Act unless otherwise stated. Other regulatory requirements associated with the other six points of this table also apply.	• Mandatory supplemental treatment in 24 months for new OWTS and in 48 months or existing OWTS if within 600 feet of 303(d)-listed waters when OWTS contributes to impairment by nitrogen or pathogens and a TMDL is set. TMDL adoption may alter the 600-foot distance. The proposed project requirements apply only where the regional water boards have determined that OWTS are contributing to impaired water bodies. Does not apply where existing TMDLs require wastewater management plan.	None stated	None stated	None stated	None stated	• Established Zone of Benefit in vicinity of Lake Yosemite and new Zones of Benefit for large subdivisions; Zones of Benefit require nitrate effluent limit of 10 mg/L as N.	• Septic tank prohibition for specified areas of Quail Valley due to contamination produced in Canyon Lakes, a 303(d) impaired water body	• Limitations on septic systems exist in areas of groundwater recharge • The San Lorenzo Wastewater Management Plan allows development with OWTS with standards from the regional water board; repairs must follow these standards	None stated
Point 3: Requirements Authorizing Local Implementation									
The requirements provide direction on how OWTS regulations can be entirely or partially implemented by counties, cities, and special districts.	• Must notify regional water board for work on OWTS larger than 3,500 gpd or if wastewater source changes (e.g., domestic to commercial) • Implemented by SWRCB or regional water board through WDRs or conditional waivers	• County is granted authority to permit and enforce OWTS systems for individual and multiple dwellings and small commercial facilities • Department of Environmental Management is recognized by the Board	• MOU with Lahontan Regional Water Board	• County authority applies to single-family residences only	• MOU between local agency and regional water board	No reference to local versus state implementation	• OWTS regulation is shared between the county and the regional water boards, with County as lead agency for single-family residences, including new subdivisions and small commercial; regional water boards may review and approve or deny	• MOU between local agency and regional water board allows county to permit and oversee OWTS to 20,000 gpd	• MOU between local agency and regional water board

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	• MOU or agreement between local agency and regional water board not required but if used must adhere to these regulations and Basin Plan • Local agency or regional water board retains option for setting more protective requirements for water quality	of Supervisors as a public entity (i.e., a local agency empowered to plan, design, finance, construct, operate, maintain, and abandon any sewage system or treatment facility serving a land development)					subdivisions and maintain jurisdiction over multifamily and large flow discharges.		
Point 4: Requirements for Corrective Actions									
	• Owners shall correct malfunctioning OWTS within 90 days of being notified by the local agency or the regional water board • Regional water board may exempt a property from the 90-day requirement and extend the time frame, to no more than 180 days	• Enforcement will be taken for infractions against the county ordinance • Correction notice issued if system operation or construction in violation of county ordinance • Permit suspension	None stated	• Overflows, discharges to the ground surface of any premises are prohibited and may cause the health director to order occupants to vacate premises within 24 hours	• Failure identified and a permit application to correct the condition	None stated	• The director shall order abatement when a failure condition is present that threatens public health or water quality. Enforcement may include requirement for immediate abatement based on severity of the environmental or health risk. May include immediate pumping of septic tank, use of portable toilets, and other interim measures while permanent abetment measures under permit.	• If a system fails, it must be corrected	• Required for a failing OWTS or when a violation of the county code occurs
Point 5: Minimum Monitoring Requirements									
Inspection requirements	• Inspection records for all new and replaced OWTS • Every 5 years for all systems	• Inspections during siting and construction phases	• Optional real estate certification inspection for integrity and functionality of tank and leach field	• Inspections to verify that number of bedrooms and capacity of the installed OWTS match the permit	• Installation inspections • Monitoring inspection of nonstandard OWTS, including STS systems	None stated	• All new and repaired STS must have yearly inspection of tanks and proof of septic tank pumping at least every 5 years • For STS, must have proof of service contract and repairs records	• All STS subject to regular inspections • Inspections by health officer during construction of OWTS	• Inspections during site evaluation and construction phases
System operation inspections and monitoring	• Add telemetric alarm requirements	None stated	None stated	None stated	• Operating permit for large flows, nonstandard systems • Monitoring and inspection requirements, but varying discharge requirements	• Must inspect solids levels in septic tanks at new larger subdivisions • Biyearly evaluation of proper functioning of experimental systems	• STS subject to yearly inspection and proof of cleaning every 5 years, ongoing maintenance, maintenance agreement	• Operating permit required for STS and possibly for other OWTS • For STS, generic specification of monitoring frequency, location, and parameters provided in the code	• STS must have an operating permit with annual reporting and revocable permit
Groundwater quality monitoring	• For all systems, groundwater quality in the vicinity of the OWTS dispersal system shall be monitored through domestic wells or monitoring wells upon installation and at least every 5 years	None stated	• 3-foot minimum depth to groundwater or impermeable layer for conventional OWTS	None stated	• May be required for STS	None stated	• For repairs only if using STS; monitor adjacent to mound system • For a repair using a mound system, must monitor winter and spring for 3 years adjacent to mound	• May be required as part of operating permit	• For STS, monitoring wells must be installed in vicinity of and within the disposal field • Sampling must occur at least annually during wet weather

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Groundwater level determinations	• Install groundwater monitoring wells per regional water board and measure seasonally • Special monitoring circumstances may apply • Not required if water supplied by a community water system	• Observation backhoe tests pits may be required	None stated	• A protocol for establishing historic high groundwater is under development by the County	• Wet weather testing for highest groundwater level may be required; special monitoring form and well requirements apply	None stated	• Seasonal high groundwater evaluation required to permit OWTS	• May be required for any OWTS prior to permitting • Required if intended use of STS is to reduce separation to groundwater	• Use soil mottling to assess highest histrionic groundwater level or install a monitoring well
Effluent quality monitoring	• Must conform with O&M manual or more frequently per regional water board • Monitoring STS with disinfection weekly or quarterly with samples tested by a CDPH-certified laboratory	None stated	None stated	None stated	• Effluent flows and quality monitored under operating permits for high-flow and high-strength OWTS	• In Zones of Benefit, must meet 10 mg/L nitrate as N effluent limit.	None stated	None stated	None stated
Point 6: Exemption Criteria									
Conditions by which regional water boards may set criteria for exemptions to OWTS	• OWTS regulated by WDRs may be exempted from requirements by regional water boards	Not applicable for county agency	Not applicable for county agency	Not applicable for county agency	Not applicable for county agency	Not applicable for county agency	Not applicable for county agency	Not applicable for county agency	Not applicable for county agency
Point 7: Major Repair									
Requirements for determining when a system is subject to a major repair.	• A major repair is a malfunction that required when surfacing effluent occurs from an OWTS, when the general requirements of Section 30002 are not met, or when effluent concentrations exceed the requirements for STS. Section 30002 requires unsaturated soil conditions, absence of nuisance as defined by the California Water code, and protection of public health and water quality. A major repair shall be corrected within 90 days.	• A failing septic system is any system that discharges untreated or inadequately treated sewage or septic tank effluent directly or indirectly onto the ground surface, into public waters, or into a dwelling	None stated	• Required when overflows or discharges to the ground surface of any premises occur • "Failed seepage pits are those pits that overflow, are required to be pumped out, and have effluent sewage leaking on the lot or beyond."	• Follow "Guidelines for Issuing Repair Permits" policy.	• Leach field failure if constant wet spots or lush growth over field, plumb drainage is sluggish, or odors over the leach field	• When a system is determined to be in failure (i.e., is surfacing or leaking to groundwater, polluting of surface or groundwater, when sewage backs up into buildings, or a system is out of compliance with permit requirements)	• Minor repairs consist of replacing the septic tank or installing a greywater sump; all other repairs are considered major	• When wastewater from an OWTS is: o backing into buildings o surfacing on the ground o discharged to surface water or groundwater o lacking unsaturated vertical soil separation to groundwater o elevated above the disposal pipe • For STS, when: o fecal coliform over 2.2 MPN or total coliform over 240,000 MPN o Nitrate limit not met
Conditions that require a repair	• A major repair is required when surfacing effluent occurs from an OWTS or when effluent concentrations exceed the requirements for STS	None stated	None stated	• Overflows, discharges to the ground surface of any premises	• Repairs requiring permits include replacement of septic tanks, pump tanks or basins, pump controls, grease tanks, or the absorption system (dispersal system)	None stated	• Conditions requiring the replacement, enlargement, or modification of a septic tank, treatment unit, or dispersal system regardless of whether a failure condition exists	• Conditions that create a public health hazard or degrade surface water or groundwater quality • Conditions that violate county OWTS code	• Discharges to the ground surface, into surface waters, into groundwater, or an improperly functioning disposal sewage disposal system

Notes: BOD = biochemical oxygen demand.
CDPH = California Department of Public Health.
gpd = gallons per day.
IAPMO = International Association of Plumbing and Mechanical Officials.
mg/l = milligrams per liter.
MOU = memorandum of understanding.
mpi = minutes per inch.
MPN = Most Probable Number.
O&M = operation and maintenance.
regional water board = regional water quality control board.
STS = supplemental treatment system
SWRCB = State Water Resources Control Board.
TMDL = total maximum daily load.
TN-N = total nitrogen as nitrogen.
TSS = total suspended solids.
WDR = waste discharge requirement.

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Los Angeles County:	County of Los Angeles 2002 Plumbing Code; Private Sewage Disposal Systems Guidelines for Department Personnel. January 25, 2002. Procedures for Application for Approval of Private Sewage Disposal System Construction. January 1, 2000. Los Angeles County Code Parts 3.38.450 and .460; 11.38.470 -- .670.
Merced County:	1. Merced County Minimum Design standards – Operation and Maintenance, and Site Evaluation for On-Site Sewage Disposal Systems. Merced County Division of Environmental Health. 1995 2. New Onsite Sewage Requirements (Effective 11/18/05). Merced County Division of Environmental Health. 2005.
Mendocino County:	1. Land Use Programs: On-Site Sewage (Septic) Systems and Water Wells. County of Mendocino Environmental Health. 2006. 2. Land Use Policies. County of Mendocino Environmental Health. 2006. 3. Land Development Requirements: Minimum Standards for On-Site Sewage Systems. Form #42.28. revised June 1998. 4. Non-Standard On-Site Sewage Disposal Systems Program. County of Mendocino Environmental Health. 1996. 5. Division of Environmental Health Policies and Procedures. Subject: Wet Weather Testing of Soils. December 1, 1982.
Riverside County:	1. Ordinance No. 650.4; April 2, 1988. Ordinance 650.5 June 14, 2006.. 2. Waste Disposal for Individual Homes, Commercial, and Industrial. County of Riverside. August 1981. 3. Ordinance No. 856: An Ordinance of the Count of Riverside Establishing a Septic Tank Prohibition for Specified Areas of Quail Valley and Requiring the Connection of Existing Septic Systems to Sewer. August 28, 2006.
Santa Cruz County:	Septic Systems and Design Standards in Santa Cruz County. March 1999; Santa Cruz County Code Chapter 7.38 Sewage Disposal. Memorandum or Understanding: Regional Water Quality Control Board Central Coast Region and County of Santa Cruz. August 21, 2001; Information on service Charges for County Service area No. 12: Septic System Maintenance and Management; Draft Standards and Procedures for the Repair and Upgrade of Septic Systems. August 28, 2002.
Solano County:	Solano County Ordinance Chapter 6.4; Sewage Standards. November 7, 2005.

Table 3-1b
Comparison of OWTS Regulations in Counties and Cities Throughout California

Regulatory Elements	Proposed Project	Sutter County	Stinson Beach County Water District	Tehama County	Yucca Valley SB County	Sonoma County	Town of Paradise	City of Malibu
Point 1: Minimum Operating Requirements								
General requirements: Siting and design, construction, performance requirements and maintenance	• Tank performance standards: o Secure access and watertight risers o 1/8-inch mesh effluent filter o IAPMO-approved tanks • General effluent dispersal standards o Aerobic conditions in unsaturated zone • O & M manual • Qualified professionals requirements: o Soils and site evaluation and design o Applies to all new OWTS and replacement of existing treatment or dispersal system. • STS Performance o 30 mg/l BOD, 30 mg/l TSS, 10 mg/l TN-N, 10 MPN total coliform if sand (1–10 mpi) or 1,000 MPN if >10 mpi. o Periodic performance evaluation	• Tank performance standards: o Must be on approved list of water-tight tanks o Effluent filter required and department approved o Access risers to be water tight, at or above grade with secure, lockable lid o Designed for protection against flotation and groundwater intrusion o Must be tested in place to be water tight by commercial installer and/or authorized professional o Tank sizing dependent on bedroom count o Multicompartment tank design requirements o Pump tank requirements are similar o Location of ST and PT in vehicular traffic to be designed by registered engineer • Standards for pump systems (pressure type) • Requirements for OWTS designers (state registered and approval by the department) and continuing education requirements • Construction by commercial installers (Class A, B-1, C-36 or C-42 licensed contractor) • STS required if percolation >60 mpi or less than 5 mpi	• Tank performance standards: o Conform to UPC, not less than 1,500 gallons, access risers, gas and water tight; if used as sump tank, shall have 1/8-inch screen and deliver design volume, installed level and not less than 12-inch cover, shall have effluent filter of approved type • Percolation testing to be used for design with soil profile requiring backhoe excavations, hand auguring and/or coring and minimum holes set in primary and reserve areas • Designed by person licensed or registered or otherwise authorized by California to design onsite wastewater systems • Depth to groundwater based on percolation and minimum depth to suitable soil set at 3 feet; minimum percolation set at 120 mpi; ground slope maximum set at 20% and greater requires geological report • Waiver approval required by regional water board for alternative systems • Design standards established for pressure and alternative systems • Sand filter systems criteria established for conditions of greater than 5 mpi and inadequate depth-to-groundwater separation • Design standards established for drip dispersal systems	• Tank performance standards: o Septic tank construction shall be approved by the Tehama Building Department. Sizing according to bedroom count and minimum 1,200-gallon tank and system materials shall conform to UPC as adopted by the county or as superseded by this code o Onsite sewage disposal systems shall comply with UPC, as adopted by the county and the Manual of Septic Tank Practice, 1967; where conflicts occur, UPC supersedes, and where differences occur between this code and referenced standards, this code applies • Design standards and site evaluation shall be published by the DEH and approved by the County Board of Supervisors for standards and special or alternative systems • Special systems shall be designed by a consultant and certified to the DEH that system installed as specified or changed as approved by DEH • Cesspools and holding tanks not allowed • Privies installation and use conditions specified • Requirements for grease interceptors specified and conformance to UPC	• Minimum septic tank size shall be 500 gallons and specifications comply with UPC • Onsite sewage disposal systems shall comply with UPC, as adopted by the county or which has been approved by the DEHS and the Building Authority of this jurisdiction • Alternative systems shall be approved by the DEHS, Building official and the regional water board; permit required before installation of this system • Soil testing for disposal systems to be conducted only by registered or certified professional personnel • Certification compliance of wastewater disposal system by person registered with DEHS and state registered in civil engineer, sanitarian, geologists, or C-42 contractor • Modifications and/or alternatives systems shall be considered on case-by-case basis upon petition to the DEHS • Special designated areas identified as “Maintenance Areas” require specific conditions	• Tank performance standards: o IAPMO-approved tanks o Water tight o Restrictions on aboveground uses over tank • Registered Environmental Health Specialist or Registered Civil Engineer for design of most systems; licensed Class A or C-42 may design pump and dosing systems • Compliance with Appendix K, UPC • Conventional systems limited to using leach lines • Very detailed percolation testing and site evaluation procedures defined	• Septic tank performance standards: o Watertight o At least two compartments o Capacity to resist weight loading • Many other tank, valve, and component requirements • Site evaluation by Registered Environmental Health Specialist, Registered Civil Engineer, certified professional soil scientist, or certified engineering geologist/ registered geologist • Site evaluation and design standards • Operating permit for standard and alternative systems • Soil group used to determine OWTS type • Design requirements for conventional and supplemental systems	• Use of modified California Plumbing Code setting requirements for septic tank sizing and setbacks • Tank construction and access requirements • Licensed contractors for installation • Inspector registration program • Registered civil engineer or geologist for supplemental treatment system design • Supplemental treatment systems allowed throughout the city • STS required for commercial land uses, beach front properties, and other special cases • Revocable operating permit required and may include groundwater monitoring and reporting • O&M manual required for all systems • In general, regional water board Order 01-031 sets receiving water limits for commercial and multifamily development that the City enforces through permitting • Inspector program specified for OWTS inspection, including city-approved required training and passing of exam
Dispersal System Standards and Requirements	• Installation at shallowest practicable depth for new OWTS • Soil texture or percolation test allowed as the basis for sizing the dispersal field • 3-ft min. depth to groundwater or impermeable layer for conventional OWTS; 2-ft min. for supplemental OWTS	• Standards for materials, spacing, depth, and size of conventional leach lines • Standards provided for minimum sewer pipe versus slope, sanitary tees, cleanouts for building sewer and effluent pipe, D-Boxes, trench design	• Criteria established for holding tanks, permits for septic pumping and use of chemical toilets for temporary use • Percolation soil testing and soil profile used for design of standard systems • Groundwater evaluation based on percolation	• Setbacks to water bodies, water lines, and buildings specified • Seepage pits allowed • Slope limited to 30% • Reserve area (replacement area) specified for residential, commercial, industrial, and agricultural • Prohibited areas specified for location of disposal areas	• Percolation tests shall be used as the basis for sizing the dispersal field • Minimum setbacks specified • Maximum slope set at 30%, and all other requires engineering data presented to the DEHS	For conventional: • >2 feet of continuous unsaturated soil • Many detailed requirements that address specific conditions • 25 feet from cut banks, sharp grade changes • <30% slope	• Setbacks to water bodies, water lines, buildings, and other specified • Minimum separation to restrictive layer • Trench and bed specifications • Steep slope requirements • Capping fill requirements • Design requirements for several soil-based systems	• Use of modified California Plumbing Code setting requirements for disposal field sizing, setbacks, and percolation testing • Sieve analyses may be used in lieu of percolation test • Infiltration test allowed for subsurface drip dispersal • Special conditions apply to beachfront property

Table 3-1b
Comparison of OWTS Regulations in Counties and Cities Throughout California

Regulatory Elements	Proposed Project	Sutter County	Stinson Beach County Water District	Tehama County	Yucca Valley SB County	Sonoma County	Town of Paradise	City of Malibu
	• Allowance for using special engineered fill for minimum depth. • Limits for rocky soils, pressure distribution may be required. Min. soil depth increases. • Standards allowing drip dispersal • Seepage pits limited to sites unsuitable for other dispersal systems. Separation to groundwater reduced if supplemental treatment used. • 0.7 reduction factor allowed for gravelless chambers • Evapotranspiration system design must accommodate 25-yr. precipitation event.	• Soil texture allowed as the basis for sizing the dispersal field • Percolation testing as required in situations of types 5 and 6 soils, referred to as "extended site evaluation" • Setbacks to water bodies and buildings specified • Water table evaluations based on seasonal requirements • Standards for subdivisions • Standards for pressure distribution • Leach lines must use distribution boxes • Criteria for failing systems, repairs and abandonment • Minimum lot size specified per soil type • No provision for seepage pits • No provision for subsurface drip dispersal	• Standards set for subdivisions. • Percolation testing required • Variances to standards established and require submittal to the RWQCB • No provisions for gravelless drainfield systems • Installation shall be by licensed contractor	• Additional evaluation may be required for other than residential single-family systems • Soil absorption conditions specified and minimum separation of 3-1/2 feet to restrictive layer in the upper horizons of the soil	• Special requirements exist for mountain areas to include prohibiting seepage pits in these areas	For STS: • <2 feet of continuous unsaturated soil • Strict setback distances • Slope restrictions based on type of supplemental system • Must notify the county of malfunctioning system • Many prescriptive physical requirements for design of specific supplemental systems Special requirements for commercial, agricultural, and industrial discharges		• Leach fields, absorption beds, seepage pits, and subsurface drip dispersal allowed • No reduction factor for infiltration chambers • Registered civil engineer, geologist, soils engineer, or environmental health specialist for site characterization • Groundwater mounding analysis may be required
Point 2: Requirements for Impaired Waters								
These requirements apply to OWTS within the watersheds of impaired water bodies as listed under section 303(d) of the Clean Water Act unless otherwise stated, Other regulatory requirements associated with the other six points of this table also apply.	• Mandatory supplemental treatment for new OWTS and in 4 years for existing OWTS if within 600 feet of 303(d)-listed waters when OWTS contributes to impairment by nitrogen or pathogens and a TMDL is set. TMDL adoption may alter the 600-ft distance. The proposed project requirements only apply where the Water Boards have determined that OWTS are contributing to impaired water bodies. Does not apply where existing TMDLs require wastewater management plan.	None stated	None stated	None stated	None stated	• Nitrate-sensitive areas • Seven areas have special restrictions, prohibitions, or construction requirements for protection or to remediate contamination	None stated	• Properties in the vicinity of 303(d) impaired water bodies with TMDLs for nitrate and/or total coliform linked to OWTS discharges require higher levels of STS treatment, including more stringent permit application details and effluent and groundwater monitoring requirements
Point 3: Local Implementation								
The requirements provide direction on how OWTS regulations can be entirely or partially implemented by counties, cities, and special districts.	• Must notify Water Board for work on OWTS larger than 5,000 gpd or if wastewater source changes (e.g., domestic to commercial) • Implemented SWRCB or Regional Water Board through WDRs or conditional waivers.	• No reference made to local or state implementation	• General manager of the Stinson Beach County Water District is authorized to enforce this code and may appoint a district engineer to implement	• Health officer shall be empowered to enforce the provisions of this chapter and amendments • County authority applies to single-family residences and nonresidential in line with DEH published design standards and as approved by	• County Board of Supervisors designates the County DEHS as the enforcement authority	• MOUs and Joint Innovative Waste Treatment and Disposal System Evaluation Agreements in effect with the North Coast and San Francisco Regional Water Boards	• No reference made to local or state implementation	• MOU with Los Angeles Regional Water Board defining division of enforcement based on OWTS size and waste strength • Close collaboration with Los Angeles Regional Water Boardon large projects and

Table 3-1b
Comparison of OWTS Regulations in Counties and Cities Throughout California

Regulatory Elements	Proposed Project	Sutter County	Stinson Beach County Water District	Tehama County	Yucca Valley SB County	Sonoma County	Town of Paradise	City of Malibu
	• MOU or agreement between local agency and regional water board not required but, if used; must adhere to these regulations and Basin Plan, • Local agency or Water Board retains option for setting more protective requirements for water quality			the County Board of Supervisors				projects with high-strength waste
Point 4: Requirements for Corrective Actions								
	• Owners shall correct malfunctioning OWTS within 90 days of being notified by the local agency or the regional water board • Regional water board may exempt a property from the 90-day requirement and extend the time frame, to no more than 180 days	• Enforcement taken for infractions against the county ordinance and treated as a misdemeanor	• Every wastewater disposal system will be inspected every 3 years. If found not to comply with design or is discharging to surface water, groundwater of the contiguous seashores of the district, the discharge permit may be revoked. Upon completion of repairs and the district determination is that the violation no longer exists, then the permit will be reissued.	• Enforcement action for permit violation, such as commencing without a permit, shall be a violation of county code; shall be guilty of a misdemeanor punishable by fine not to exceed $500 or imprisonment not to exceed 6 months or both	• Reasonable suspicion of threat to public health and safety is grounds for temporary suspension of operational permit; revoked permit reinstated upon adequate repair, alteration, or maintenance	• Reasonable suspicion of threat to public health and safety is grounds for temporary suspension of operational permit; revoked permit reinstated upon adequate repair, alteration, or maintenance • If disposal field area is physically altered by site activities such as grading, the vesting certificate may be revoked • Operating a septic system without an Operational Permit is grounds for corrective action	• Enforcement will be taken for failure to have or comply with the requirements of the construction or operating permit conditions, except under conditions that allow for an emergency repair without a construction permit	• Enforcement action for violations of city OWTS code. A conviction assesses guilt of a misdemeanor punishable by a fine not to exceed $1,000 or imprisonment up to 6 months or both. Each day of violation constitutes a separate offense.
Point 5: Minimum Monitoring Requirements								
Inspection requirements	• Inspection records for all new and replaced OWTS • Every 5 years for all systems	• Inspections during siting and construction phases	• Designer shall provide an inspection schedule and will provide an as-built once system is completed and note any changes for district approval as necessary	• Inspections shall be conducted by the administrative authority to ensure work complies with this chapter	• Installation inspections and subsequent inspection specified as well as periods between tank pumping	• Easement agreements required for county access for observing, testing, and sampling	• Inspections of conventional and STS upon construction and as required for compliance and enforcement of operating permits	• OWTS inspection required by city-approved contractor, civil or geotechnical engineer, engineering geologist, or environmental health specialist licensed or registered with the state • Inspections include major components of conventional and STS
System Operation Inspections and Monitoring	• Add telemetric alarm requirements	• Alternative systems as directed by health officer	• Inspections will be conducted every 3 years	• None stated	• Special monitoring required within designated maintenance areas	• For STS, operational permit required; 1-year renewable operational permit • STS should pump septic tank once every 5 years	• For STS, requires monthly inspections by experienced personnel, including Town of Paradise Licensed Evaluators and state-certified wastewater treatment plant operators; maintenance logs required	• Operating permit must be renewed every 2–5 years and upon point of property sale • Revoked if noncompliance with city code • Monitoring requirements included for commercial and multifamily sites • STS must have telemetric alarms
Groundwater quality monitoring	• For all systems, groundwater quality in the vicinity of the OWTS dispersal system shall be monitored through domestic wells or monitoring wells upon installation and at least every 5 years	None stated	None stated	None stated	None stated	• For STS: • Semi-annual monitoring in monitoring wells in accordance with operating permit • 2.2 MPN fecal coliform, 3,000 MPN total coliform in wells	• Surface water and groundwater monitoring program protocol for Town of Paradise Onsite Wastewater Management Zone	• Quarterly monitoring for commercial and multifamily residential sites in conjunction with the regional water board Order 01-031 and in special cases such as near 303(d) impaired water bodies

Table 3-1b
Comparison of OWTS Regulations in Counties and Cities Throughout California

Regulatory Elements	Proposed Project	Sutter County	Stinson Beach County Water District	Tehama County	Yucca Valley SB County	Sonoma County	Town of Paradise	City of Malibu
Groundwater level determinations	• Install groundwater monitoring wells per regional Water Board and measure seasonally. • Special monitoring circumstances may apply. • Not required if water supplied by a community water system.	• Observation backhoe tests pits required and evaluation based on season and agricultural activities	• Observation backhoe slices required and minimum vertical separation depending on soil percolation	• A protocol for establishing groundwater separation is specified: a minimum of 5 feet from a permanent regional or permanently perched water table.	None stated	• At time of initial site evaluation	• Required during site evaluation and as part of monitoring program in Town of Paradise Onsite Wastewater Management Zone	• Required during site evaluation and in cases where ongoing monitoring occurs as part of an operating permit
Effluent quality monitoring	• Must conform with O & M manual or more frequently per Water Board. • Monitoring STS with disinfection weekly or quarterly with samples tested by a CDPH-certified laboratory	None stated	None stated	None stated	None stated	None stated	• BOD, TSS, nitrogen, and flow monitoring at least quarterly	• Yes, when ongoing monitoring occurs as part of an operating permit, frequently in conjunction with requirements of regional water board Order 01-031
Point 6: Exemption Criteria								
Conditions by which Regional Water Boards may set criteria for exemptions to OWTS	• OWTS regulated by WDRs may be exempted from requirements by Regional Water Boards.	Not applicable for county agency	Not applicable for county agency	Not applicable for county agency	Not applicable for county agency	Not applicable for county agency	Not applicable for city agency	Not applicable for city agency
Point 7: Major Repair								
Requirements for determining when a system is subject to a major repair.	• A major repair is required when surfacing effluent occurs from an OWTS or when effluent concentrations exceed the requirements for STS	• A failing septic system is any system that discharges untreated or inadequately treated sewage or septic tank effluent directly or indirectly onto the ground surface, that is backing up, or that allows untreated or inadequately treated sewage or septic tank effluent to reach groundwater • Also considered failing are privies, seepage pits, or cesspools; deep trenches that discharge directly to groundwater in special areas; metal/wood tanks; septic tanks considered a safety hazard and unrecorded drainfields	• During the periodic inspection (every 3 years), if the system is not performing according to design or contamination occurs to groundwater, surface water, or the contiguous seashores of the district, the permit may be revoked and repair may be required	• Emergency repairs specified to allow work to proceed without a permit, but subsequent permit required and to be approved in accordance with county code	• A failing system has surfacing effluent or septage, or backup of septage toward fixtures	• Determination of a serious or imminent threat to public health and safety associated with the use of a nonstandard or monitored system	• Upon written notification, the owner of an OWTS shall repair, modify, replace, or abandon a failing system discharging incompletely treated wastewater directly into public water or onto the ground or a malfunctioning systems causing (1) contamination of nearby water wells or surface water, (2) surface ponding or backups of sewage into the building, (3) seepage of wastewater below a building, or (4) foul odors from the disposal system are subject to repair.	• Emergency permitting procedures instituted to allow for upgrade of commercial or multifamily residential OWTS within coastal zone based on either report of overflows, backups, wastewater surfacing, or increase frequency of tank pumping to avoid these occurrences
Conditions that require a repair	A major repair is a malfunction that requires correcting when surfacing effluent occurs from an OWTS, when the general requirements of Section 30002 are not met, or when effluent concentrations exceed the requirements for STS. Section 30002 requires unsaturated soil conditions, absence of nuisance as defined by the California Water Code, and protection of public health and water quality. A major repair shall be corrected within 90 days.	See above.	See permit violation above.	See above requirements.	See above requirements.	Among other reasons, system was installed at time when county codes were rudimentary or before codes	See above requirements.	See above.

Notes:
BOD = biochemical oxygen demand.
CDPH = California Department of Public Health.
DEH = Division of Environmental Health.
DEHS = County Department of Environmental Services.
gpd = gallons per day.
IAPMO = International Association of Plumbing and Mechanical Officials.
mg/l = milligrams per liter.
MOU = memorandum of understanding.
mpi = minutes per inch.
MPN = Most Probable Number.
O&M = operation and maintenance.
regional water board = regional water quality control board.
ST = supplemental treatment
STS = supplemental treatment system
SWRCB = State Water Resources Control Board.
TMDL = total maximum daily load.
TN-N = total nitrogen as nitrogen.
TSS = total suspended solids.
UPC = Uniform Plumbing Code.
WDR = waste discharge requirement.

Sources:

El Dorado County:	(1) El Dorado County Ordinance Chapter 15.32.
	(2) El Dorado County Resolution No. 259-99.
	(3) County of El Dorado. November 24, 1999.
Inyo County:	Inyo County Code 7.12 Discharge of Sewage, 7.52.020, 7.52.060. Inyo County.
Los Angeles County:	(1) County of Los Angeles 2002 Plumbing Code; Private Sewage Disposal Systems Guidelines for Department Personnel. January 25, 2002.
	(2) Procedures for Application for Approval of Private Sewage Disposal System Construction. January 1, 2000.
	(3) Los Angeles County Code Parts 3.38.450 and .460; 11.38.470 -- .670.
Malibu, City of:	(1) Onsite Wastewater Treatment Systems: Title 28 of the Los Angeles County Code, Incorporating the California Plumbing Code, 2001 Edition, and the City of Malibu Ordinance No. 242 Amendments. March 2003.
	(2) Malibu Private Sewage Disposal System Design Requirements. November 24, 2004
	(3) City of Malibu LCP Local Implementation Plan: Adopted by the California Coastal Commission on September 13, 2002. Pages 291 and 292. September 2002.
Merced County:	(1) Merced County Minimum Design Standards – Operation and Maintenance, and Site Evaluation for On-Site Sewage Disposal Systems. Merced County Division of Environmental Health. 1995
	(2) New Onsite Sewage Requirements (Effective 11/18/05). Merced County Division of Environmental Health. 2005.
Mendocino County:	(1) Land Use Programs: On-Site Sewage (Septic) Systems and Water Wells. County of Mendocino Environmental Health. 2006.
	(2) Land Use Policies. County of Mendocino Environmental Health. 2006.
	(3) Land Development Requirements: Minimum Standards for On-Site Sewage Systems. Form #42.28. revised June 1998.
	(4) Non-Standard On-Site Sewage Disposal Systems Program. County of Mendocino Environmental Health. 1996.
	(5) Division of Environmental Health Policies and Procedures. Subject: Wet Weather Testing of Soils. December 1, 1982.
Paradise, Town of:	Town of Paradise Onsite Wastewater Management Zone: Manual for the Onsite Treatment of Wastewater. Revised November 8, 2005.
Riverside County:	(1) Ordinance No. 650.4. April 2, 1988.
	(2) Ordinance 650.5 June 14, 2006.
	(3) Waste Disposal for Individual Homes, Commercial, and Industrial. County of Riverside. August 1981.
Santa Cruz County:	(1) Septic Systems and Design Standards in Santa Cruz County. March 1999
	(2) Santa Cruz County Code Chapter 7.38 Sewage Disposal.
	(3) Memorandum or Understanding: Regional Water Quality Control Board Central Coast Region and County of Santa Cruz. August 21, 2001
	(4) Information on service Charges for County Service area No. 12: Septic System Maintenance and Management
	(5) Draft Standards and Procedures for the Repair and Upgrade of Septic Systems. August 28, 2002.
Solano County:	Solano County Ordinance Chapter 6.4; Sewage Standards. November 7, 2005.
Sonoma County:	Policy and Procedure Numbers 1-4-3, 9-2-2, 9-2-3, 9-2-6, 9-2-8, 9-2-9, 9-2-10, 9-2-13, 9-2-17, . Permit and Resource Management Department. Sonoma County. October 27, 2002. County Code Chapter 24 Sewers and Sewage Disposal. Guidelines for Subsurface Drip Irrigation (SDI) Systems. April 24, 2003.
Sutter County:	(1) Ordinance 1335. An ordinance of the County of Sutter …relating to on-site sewage treatment and disposal. July 2, 2002.
	(2) Pressure Distribution (August 2002): Standards and guidance for performance, application, design, and operation and maintenance.
Stinson Beach County Water District:	Title IV Onsite Wastewater Management Code. July 6, 2005
Tehama County:	(1) Tehama county Septic Systems Code. No date.
	(2) Application and Site Evaluation Procedures for Conventional on-Site Sewage Disposal and Treatment Systems. January 1, 1997.
Yucca Valley:	County of San Bernardino Title 3: Health and Sanitation and Animal Regulations , Division 3: Environmental Health, chapter 8: Waste Management. No date.

Table 3-2
Comparison of OWTS Regulations in Regional Water Boards Throughout California

Regulatory Elements	Proposed Project	Regional Water Quality Control Board								
		North Coast (Region 1)	San Francisco Bay (Region 2)	Central Coast (Region 3)	Los Angeles (Region 4)	Central Valley (Region 5)	Lahontan (Region 6)	Colorado River Basin (Region 7)	Santa Ana (Region 8)	San Diego (Region 9)
Point 1: Minimum Operating Requirements										
General requirements: Siting and design, construction, performance requirements and maintenance	• Tank, performance standards: o Secure access and watertight risers o 1/8-inch mesh effluent filter o IAPMO-approved tanks • General effluent dispersal standards o Aerobic conditions in unsaturated zone • O&M manual • Qualified professionals requirements: for soils and site evaluation and for design for all new OWTS and replacement of existing treatment or dispersal system STS Performance: • 30 mg/l BOD, 30 mg/l TSS, 10 mg/l TN-N, 10 MPN total coliform if sand (1-10 mpi) or 1,000 MPN if >10 mpi. • Periodic performance evaluation	Tank standards based on IAPMO, UPC, or approved local agency standard: NSF- or IAPMO-certified STS treatment units Qualified professional defined as geologist, soil scientist, registered civil engineer, or registered environmental health specialist STS performance: • Maximum slope limits • Separation to groundwater 2–3 feet • Monitoring program • Reporting by the agencies	IAPMO and NSF tank standards Requirements for design professionals STS performance: • 3 feet of continuous unsaturated soil • Monitoring program • Operational permit • Legal easement for agency access to system • Registered engineer or environmental health specialist for design • Annual report	Yes, sanitary engineers must design mound and evapotranspiration systems. STS performance: • Evapotranspiration system requirements • Designed by registered professional engineer experienced in sanitary engineering • 40 mg/L total nitrogen per acre for community systems in groundwater recharge areas • Risers required on STS • Engineer responsible for inspecting system during construction, establishing maintenance schedule, and education of owner	Requirements for qualified professionals not stated in the Basin Plan STS performance: None stated, but the Basin Plan encourages the use of alternative waste treatment systems.	Requirements for qualified professionals: registered engineer, geologist, sanitarian may submit specially designed systems. STS performance: Ground slope maximum 30%	STS performance: • Horizontal setbacks • O&M manual • Designed by a California-registered civil engineer, engineering geologist, or sanitarian • System inspected by designer during installation • STS may be required when higher density Public or private entity assumes O&M and monitoring responsibility	Requirements for qualified professionals not stated in the Basin Plan STS performance: None stated in Basin Plan	Requirements for qualified professionals not stated in the Basin Plan STS performance: None stated in Basin Plan	Requirements for qualified professionals not stated in the Basin Plan STS performance: Basin Plan requires adherence to *Guidelines for Evapotranspiration Systems* (1980) and *Guidelines for Mound Systems* (1980). Supplemental system requirements are otherwise deferred to the counties. Permit applications for WDR have same requirements as conventional systems.
Dispersal System Standards and Requirements	• Installation at shallowest practicable depth for new OWTS • Soil texture or percolation basis for sizing the dispersal field • 3-ft min. depth to groundwater or impermeable layer for conventional OWTS; 2-ft min. for supplemental OWTS • Allowance for using special engineered fill for minimum depth. • Limits for rocky soils, pressure distribution may be required. Min. soil depth increases. • Standards allowing drip dispersal	• Shall be located, designed, constructed, and operated to ensure that effluent does not surface at any time and that percolation of effluent will not adversely affect beneficial uses of waters of the state • 30% maximum ground slope • 3-foot minimum depth to groundwater or impermeable layer for conventional OWTS; 2 feet for STS • 5- to 40-foot setback to groundwater based on soil type • Setbacks to water bodies	• 3–5 feet of continuous unsaturated soil; 2 feet for mounds • Maximum 20% slope • Maximum 120 mpi • Setbacks to wells, drainages, water bodies, and embankments • Reserve areas required for future replacement of dispersal field • Defined procedures for evaluating soil, including percolation testing and/or soil analysis as basis for application rates • Allowance for engineered fill	• Setbacks • Groundwater separation ranges from 5 to 50 feet • Separation to impermeable layer is 10 feet • Ground slope is not over 30% • Seepage pits have extra considerations, my require 15 feet to groundwater • Nitrate disposal restrictions over recharge areas	• 5-foot separation to groundwater • 100-foot setback to water body	Provided in "Guidelines for Waste Disposal from Land Developments," Appendix 36. Include 5-foot separation to groundwater or impermeable layer from leach lines and 10 feet from seepage pits.	• Horizontal setbacks • 5 feet to limiting layer or groundwater • Maximum density of 2 EDUs per acre • Slope and expansion area requirements • Soil percolation limit	None stated in Basin Plan	None stated in Basin Plan. Future discharge requirements for larger discharges not covered by an MOU must have 250 mg/L TDS discharge limit.	Basin Plan requires conformance with design criteria used by the local jurisdiction (county) for setbacks, slope, leach line spacing, and percolation testing. Minimum depth of unsaturated soil thickness varies from 9 to 14 feet, depending on soil type and depth to groundwater. Permit applications to the regional water board must include (1) groundwater mounding study, (2) nitrate study, (3) public entity for O&M, (3) environmental study, and (4) O&M plan.

Table 3-2
Comparison of OWTS Regulations in Regional Water Boards Throughout California

Regulatory Elements	Proposed Project	Regional Water Quality Control Board								
		North Coast (Region 1)	San Francisco Bay (Region 2)	Central Coast (Region 3)	Los Angeles (Region 4)	Central Valley (Region 5)	Lahontan (Region 6)	Colorado River Basin (Region 7)	Santa Ana (Region 8)	San Diego (Region 9)
	• Seepage pits limited to sites unsuitable for other dispersal systems. Separation to groundwater reduced if supplemental treatment used. • 0.7 reduction factor allowed for gravelless chambers • Evapotranspiration system design must accommodate 25-yr. precipitation event.	• Reserve areas required for future replacement of dispersal field • Defined procedures for evaluating soil, including percolation testing and/or soil analysis as basis for application rates • Allowance for engineered fill	•	•	•		•			
Point 2: Requirements for Impaired Waters										
These requirements apply to OWTS within the watersheds of impaired water bodies as listed under section 303(d) of the Clean Water Act unless otherwise stated, Other regulatory requirements associated with the other six points of this table also apply.	Mandatory supplemental treatment in 2 years for new OWTS and in 4 years for existing OWTS if within 600 feet of 303(d)-listed waters when OWTS contributes to impairment by nitrogen or pathogens and a TMDL is set. TMDL adoption may alter the 600-ft distance. The proposed project requirements only apply where the Water Boards have determined that OWTS are contributing to impaired water bodies. Does not apply where existing TMDLs require wastewater management plan.	Prohibition of septic systems in Jacoby Creek and Old Arcata Road areas	Moratoriums on use of OWTS for new construction in Bolinas, Stinson Beach, Glen Ellen, and Emerald Lake Hills to protect nearby surface waters	San Lorenzo River watershed discharges must follow Santa Cruz County wastewater management and nitrate management plans. Wastewater management plans should be implemented for urbanizing and high density areas. Prohibitions in Nipomo, San Luis Obispo, and Los Osos.	Basin Plan references the Aqua Dulce area, where groundwater is primary source of drinking water, and references "General waste discharge requirements for residential subsurface sewage disposal systems in areas where ground water is used for domestic purposes" (Order No. 91-94, adopted July 22, 1991); prohibited installation of new OWTS within 100 feet of water courses and bodies Discharges into environmentally sensitive areas require special WDR conditions.	Preferences for community wastewater systems in areas of impaired groundwater	Yes, for subdivisions in the Eagle Drainage Hydrological Area	Prohibition of all OWTS discharges to Cathedral City Cove in 2012. Prohibition of OWTS discharges from parcels less than ½ acre over Mission Creek and Desert Hot Springs aquifers if sewer is available and also from larger parcels if sewer is available, unless density is 2 EDUs per acre or less.	Prohibition areas have 1-acre minimum lot size.	None stated in Basin Plan
Point 3: Local Implementation										
The requirements provide direction on how OWTS regulations can be entirely or partially implemented by counties, cities, and special districts.	• Must notify Water Board for work on OWTS larger than 3,500 gpd or if wastewater source changes (e.g., domestic to commercial) • Implemented SWRCB or Regional Water Board through WDRs or conditional waivers. • MOU or agreement between local agency and regional water board not required but, if used; must adhere to these regulations and Basin Plan,	Agreement between local agency and regional water board allows local agency to permit for single-family residences, commercial, and industrial establishments with less than 1,500 gpd, and subdivisions of fewer than five lots. Waivers, management districts, prohibitions require regional water board involvement. Local agency shall report on STS performance and findings.	MOU between local agency and regional water board typically used for implementation and enforcement, including STS	Local agency jurisdiction assumed in the Basin Plan but not defined	Discharges greater than 20,000 gpd require WDR.	Preferred local agency implementation but recoverable to the regional water board if county ordinance is not compatible with the board	Collaborate sharing of responsibility between the regional water board and county occurs without an official MOU.	MOU for domestic OWTS per the 1979 Guidelines for Sewage Disposal from Land Development	MOU for domestic wastewater	MOU for domestic OWTS for individual households and other facilities with flows less than 1,200 gpd

Table 3-2
Comparison of OWTS Regulations in Regional Water Boards Throughout California

Regulatory Elements	Proposed Project	Regional Water Quality Control Board								
		North Coast (Region 1)	San Francisco Bay (Region 2)	Central Coast (Region 3)	Los Angeles (Region 4)	Central Valley (Region 5)	Lahontan (Region 6)	Colorado River Basin (Region 7)	Santa Ana (Region 8)	San Diego (Region 9)
	• Local agency or Water Board retains option for setting more protective requirements for water quality									
Point 4: Requirements for Corrective Actions										
	• Owners shall correct malfunctioning OWTS within 90 days of being notified by the local agency or the regional water board • Regional water board may exempt a property from the 90-day requirement and extend the time frame, to no more than 180 days	Abatement of failing systems includes short-term mitigation and permanent corrective measures. Abate discharges in accordance with local agency requirements, reduce effluent flows, and post areas subject to surfacing sewage. Use a sewer system where available.	Provides guidance on how to use a sewer system, on frequent tank pumping, on making corrections to plumbing and leach fields, on water conservation, and on using a separate disposal field for wash water. Alternative systems may be used. Provides guidance for identifying system failure.	Provides guidance on how to use a sewer system, on frequent tank pumping, on making corrections to plumbing and leach fields, on water conservation, and on using a separate disposal field for wash water. Local agencies to bring failing systems into compliance with the Basin Plan.	If a system with a WDR is not in compliance with the WDR, the discharger must identify actions to bring the discharge back into compliance.	Prohibition on discharges that do not meet minimum protective criteria	Prohibition on discharges that do not meet minimum protective criteria	Prohibition on discharges that do not meet minimum protective criteria	Prohibition on discharges that do not meet minimum protective criteria	Prohibition on discharges that do not meet minimum protective criteria
Point 5: Minimum Monitoring Requirements										
Inspection requirements	Inspection records for all new and replaced OWTS	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan, typically stated in WDR	Guidelines for tank and drain field inspection	Tank inspection and pumping records must be kept for 5 years.	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR
System Operation Inspections and Monitoring	Add telemetric alarm requirements	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR
Groundwater quality monitoring	For all systems, groundwater quality in the vicinity of the OWTS dispersal system shall be monitored through domestic wells or monitoring wells upon installation and at least every 5 years	Supplemental systems subject to monitoring	Supplemental systems require monitoring wells within and around the soil absorption system	Monitoring wells and monitoring may be required as part of WDRs for individual OWTS	Small community and multifamily systems must have three monitoring wells on-site. Must report noncompliance of groundwater monitoring. Monitoring required by special orders, such as Order 01-031 for Malibu area.	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; typically stated in WDR	None stated in Basin Plan; however, WDRs set discharge limits and groundwater quality limits for discharges not falling under an MOU.	None stated in Basin Plan	None stated in Basin Plan; however, WDRs set discharge limits and groundwater quality limits for discharges not falling under an MOU (e.g., community sewerage systems or individual systems with flows larger than 1,200 gpd).
Inspection	Every 5 years for all systems	None stated	After 2 years in operation, then at least every 5 years	Should inspect every 2–5 years, pump if scum 3 inches to outlet or sludge to 8 inches of tank outlet	No	No	No	No	No	No
Groundwater level determinations	• Install groundwater monitoring wells per regional Water Board and measure seasonally. • Special monitoring circumstances may apply. • Not required if water supplied by a community water system.	Before issuance of WDR, depth to groundwater must be known. Waivers for required monitoring may be possible on a case-by-case basis.	Before issuance of WDR, depth to groundwater must be known. For OWTS that fall within a waiver program and for STS	OWTS for individual residences under local jurisdiction	Before issuance of WDR, depth to groundwater must be known.	Before issuance of WDR, depth to groundwater must be known.	Before issuance of WDR, depth to groundwater must be known.	Before issuance of WDR, depth to groundwater must be known.	Before issuance of WDR, depth to groundwater must be known.	Before issuance of WDR, depth to groundwater must be known.

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		North Coast (Region 1)	San Francisco Bay (Region 2)	Central Coast (Region 3)	Los Angeles (Region 4)	Central Valley (Region 5)	Lahontan (Region 6)	Colorado River Basin (Region 7)	Santa Ana (Region 8)	San Diego (Region 9)
Effluent quality monitoring	• Must conform with O&M manual or more frequently per Water Board. • Monitoring STS with disinfection weekly or quarterly with samples tested by a CDPH-certified laboratory	Supplemental systems subject to monitoring	WDRs may require effluent monitoring for individual OWTS.	Provided through individual WDRs	Yes, where individual WDRs and/or monitoring program for groundwater apply	None stated in Basin Plan; however, WDRs set discharge limits and groundwater quality limits for discharges not falling under MOUs.	If an MOU is in place, the local agency is responsible for providing any monitoring requirements.	None stated in Basin Plan	None stated in Basin Plan	None stated in Basin Plan; however, WDRs set discharge limits and groundwater quality limits for discharges not falling under an MOU (e.g., community sewerage systems or individual systems with flows larger than 1,200 gpd).
Point 6: Criteria for Exemption										
Conditions by which Regional Water Boards may set criteria for exemptions to OWTS	OWTS regulated by WDRs may be exempted from requirements by Regional Water Boards.	Provisions for waivers may be set to justify less stringent requirements than those in the Basin Plan either for individual lots or for defined geographic areas.	Current regulations allow waiver from filing of reports of waste discharge for OWTS under set flow volumes. Waiver also possible for site suitability criteria on a case-by-case basis.	Exemptions possible in a prohibition area if using STS	Current waivers for OWTS for single-family residences installed and operated in compliance with local ordinances (as modified by "General Permit" Order No. 91-94) Systems with WDRs exempt from requirements of CCR Title 23 Chapter 15 Section 2511(a)	None stated in Basin Plan. Current Basin Plan provides waiver to WDRs to OWTS where project has county permit and county uses the regional water board's guidelines.	Exemptions (waiver) to current Basin Plan limits and land use limitations if groundwater has no beneficial use, no pollution or degradation of surface water or groundwater would occur, and/or a community wastewater system is imminent. Case-by-case exemptions may be granted for density restrictions.	Exemption to minimum lot size criteria must provide sewered hookup offsets and follow the Board's "Guidelines for Sewage Disposal from Land Developments."	Exemption to minimum lot size criteria must provide sewered hookup offsets and follow the Board's "Guidelines for Sewage Disposal from Land Developments."	None stated in Basin Plan
Point 7: Major Repair										
Requirements for determining when a system is subject to a major repair.	A major repair is a malfunction that required when surfacing effluent occurs from an OWTS, when the general requirements of Section 30010 are not met, or when effluent concentrations exceed the requirements for STS. Section 30010 requires unsaturated soil conditions, absence of nuisance as defined by the California Water code, and protection of public health and water quality. A major repair shall be corrected within 90 days.	Failure of existing system (i.e., the ineffective treatment and disposal of waste resulting in the surfacing of raw or inadequately treated sewage effluent and/or the degradation of surface water or groundwater quality).	Failure of existing system (i.e., the ineffective treatment and disposal of waste resulting in the surfacing of raw or inadequately treated sewage effluent and/or the degradation of surface water or groundwater quality).	Informal definition: OWTS is inadequately or improperly sited, designed, or constructed; long-term use is not considered; inadequate operation and maintenance; destruction of beneficial uses of surface water or groundwater; transmission of diseases	None provided in the Basin Plan	None stated in Basin Plan	None stated in Basin Plan	None stated in Basin Plan	None stated in Basin Plan	None stated in Basin Plan
Conditions that require a repair	A major repair is required when surfacing effluent occurs from an OWTS or when effluent concentrations exceed the requirements for STS	None stated in Basin Plan	Lack of conformance with current regulations	None provided in Basin Plan	Conditions inferred for OWTS having WDRs by identifying compliance conditions and what constitutes proper operation and maintenance (see Order 01-031)	None stated in Basin Plan	None stated in Basin Plan	None stated in Basin Plan	None stated in Basin Plan	Implied conditions: (1) sewage will not surface, (2) discharge will not cause groundwater to rise within 5 feet of the disposal system database, and (3) cumulative impacts will not cause nitrate concentrations in groundwater to exceed water quality standards.

Notes:

BOD = biochemical oxygen demand.
CCR = California Code of Regulations.
CDPH = California Department of Public Health.
EDU = equivalent dwelling unit.
gpd = gallons per day.
IAPMO = International Association of Plumbing and Mechanical Officials.
mg/l = milligrams per liter.
MOU = memorandum of understanding.
mpi = minutes per inch.
MPN = Most Probable Number.
NSF = National Sanitation Foundation.
O&M = operation and maintenance.
regional water board = regional water quality control board.
STS = supplemental treatment system
SWRCB = State Water Resources Control Board.
TDS = total dissolved solids.
TMDL = total maximum daily load.
TN-N = total nitrogen as nitrogen.
TSS = total suspended solids.
UPC = Uniform Plumbing Code.
WDR = waste discharge requirement.

Notes for North Coast, Region 1:

1. Policy on the Control of Water Quality with Respect to On-Site Waste Treatment and Disposal Objectives, 1996. North Coast Regional Water Quality Control Board.
2. Water Quality Control Plan for the North Coast Basin. North Coast Regional Water Quality Control Board. 1996.

Notes for San Francisco Bay, Region 2:

1. Water Quality Control Plan for the California Regional Water Quality Control Board San Francisco Bay Region. 1995.
2. On-Site Wastewater Treatment and Disposal: Regional Board Waiver Program for Approving Local Agency Regulatory Programs. June 1996.
3. Minimum guidelines for the Control of Individual Wastewater Treatment and Disposal Systems. California Regional Water Quality Control Board San Francisco Bay Region. 1979.

Notes for Central Coast, Region 3:

1. Water Quality Control Plan for the Central Coast Basin. Central Coast Regional Water Quality Control Board. 1988.

Notes for Los Angeles, Region 4:

1. Water Quality Control Plan: Los Angeles Region (4) 1995.
2. General Waste Discharge Requirements for Small Commercial and Multifamily Residential Subsurface Sewage Disposal Systems. Order No. 01-031 adopted February 22, 2001.

Notes for Central Valley, Region 5:

1. Water Quality Control Plan: Central Valley Basin (5) including Appendix 36, “Guidelines for Waste Disposal from Land Developments,” 2004.

Notes for Lahontan, Region 6:

1. “Executive Officer’s Report January 2001.” Region 6. 2001.

Notes for Colorado River, Region 7:

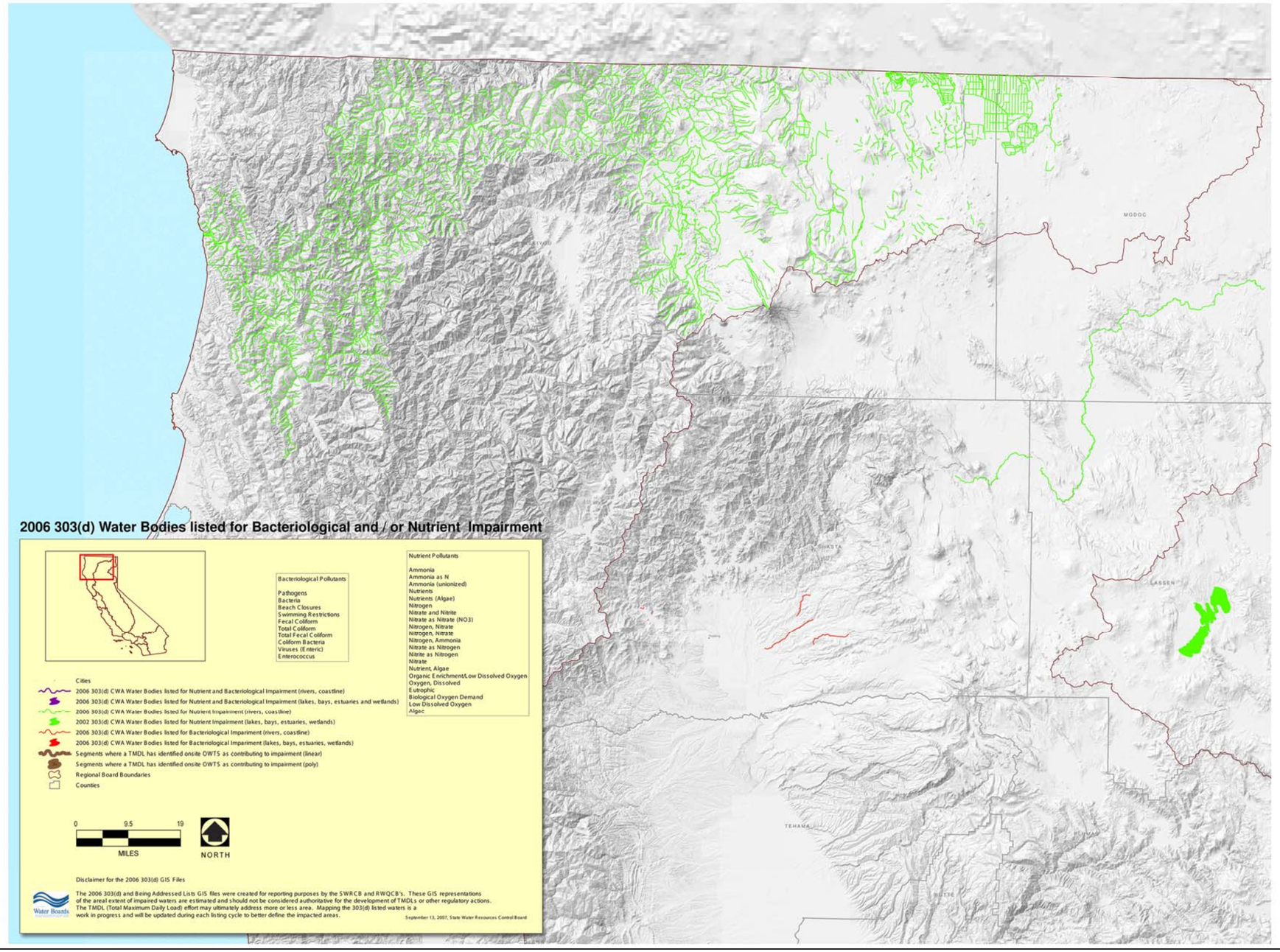
1. References: “Water Quality Control Plan: Santa Ana River Basin 7: Includes Amendments Adopted by the Regional Board through October 2005.”
2. Basin Plan references “Guidelines for Sewage Disposal From Land Development.” 1979 wherein discharges falling under MOUs or WDRs are defined and minimum design criteria for septic systems to protect groundwater quality. This seems the appropriate document to reference for more basic regulations for OWTS.
3. EDU added to notes in table above.

Notes for Santa Ana, Region 8:

1. It appears that the Basin Plan is not an adequate source basic of OWTS regulations for Region 8. In general, the Basin Plans do not address setting Waste Discharge Requirements and WDRs are where numerical discharge limits are found.
2. Basin Plan references “Guidelines for Sewage Disposal From Land Development.”
3. References: Water Quality Control Plan: Santa Ana River Basin (8). 1995.
   Resolution No. R8-2004-0001. California Regional Water Quality Control Board Santa Ana Region. 2004.
4. Note addition of TDS to the table notes above.

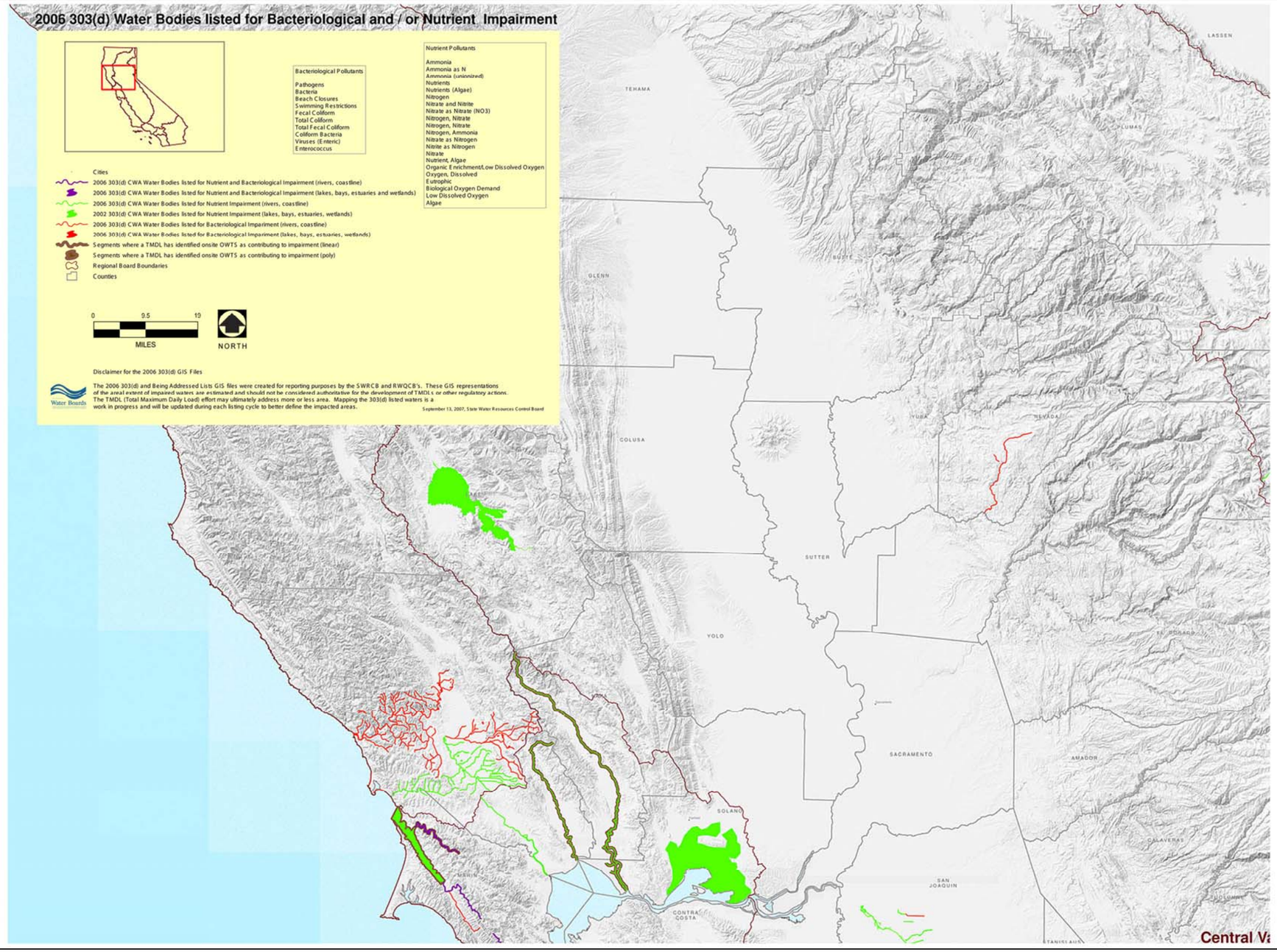
Notes for San Diego, Region 9:

1. References: Water Quality Control Plan: San Diego Basin (9), 1995.
2. Basin Plan references “Guidelines for New Communities and Individual Sewage Facilities” Resolution No. 79-44, June 25, 1979. This seems the appropriate document to reference for more basic regulations for OWTS.

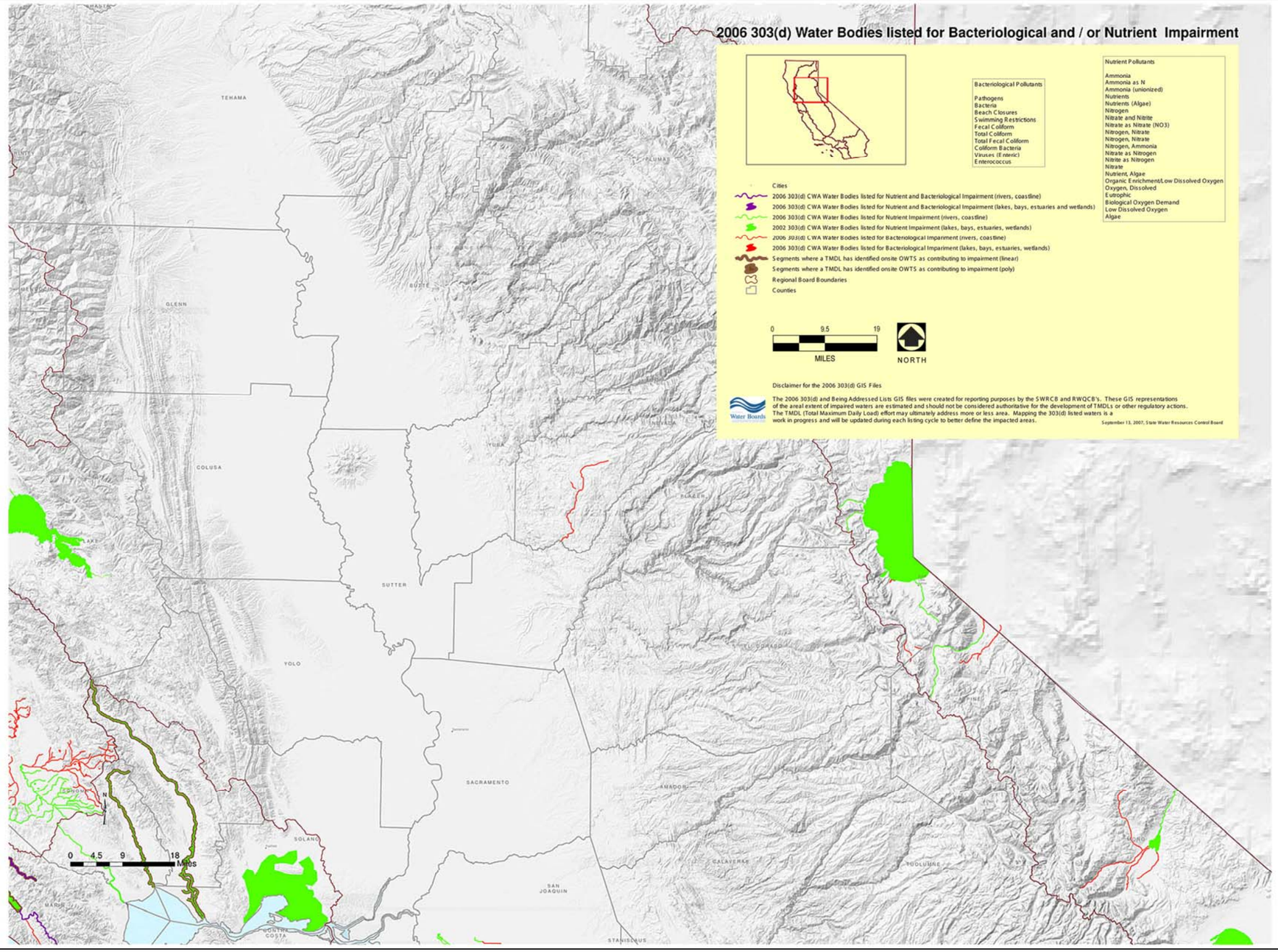


2006 303(d) Water Bodies listed for Bacteriological and/or Nutrient Impairment

Exhibit 3-1a



2006 303(d) Water Bodies listed for Bacteriological and/or Nutrient Impairment **Exhibit 3-1b**



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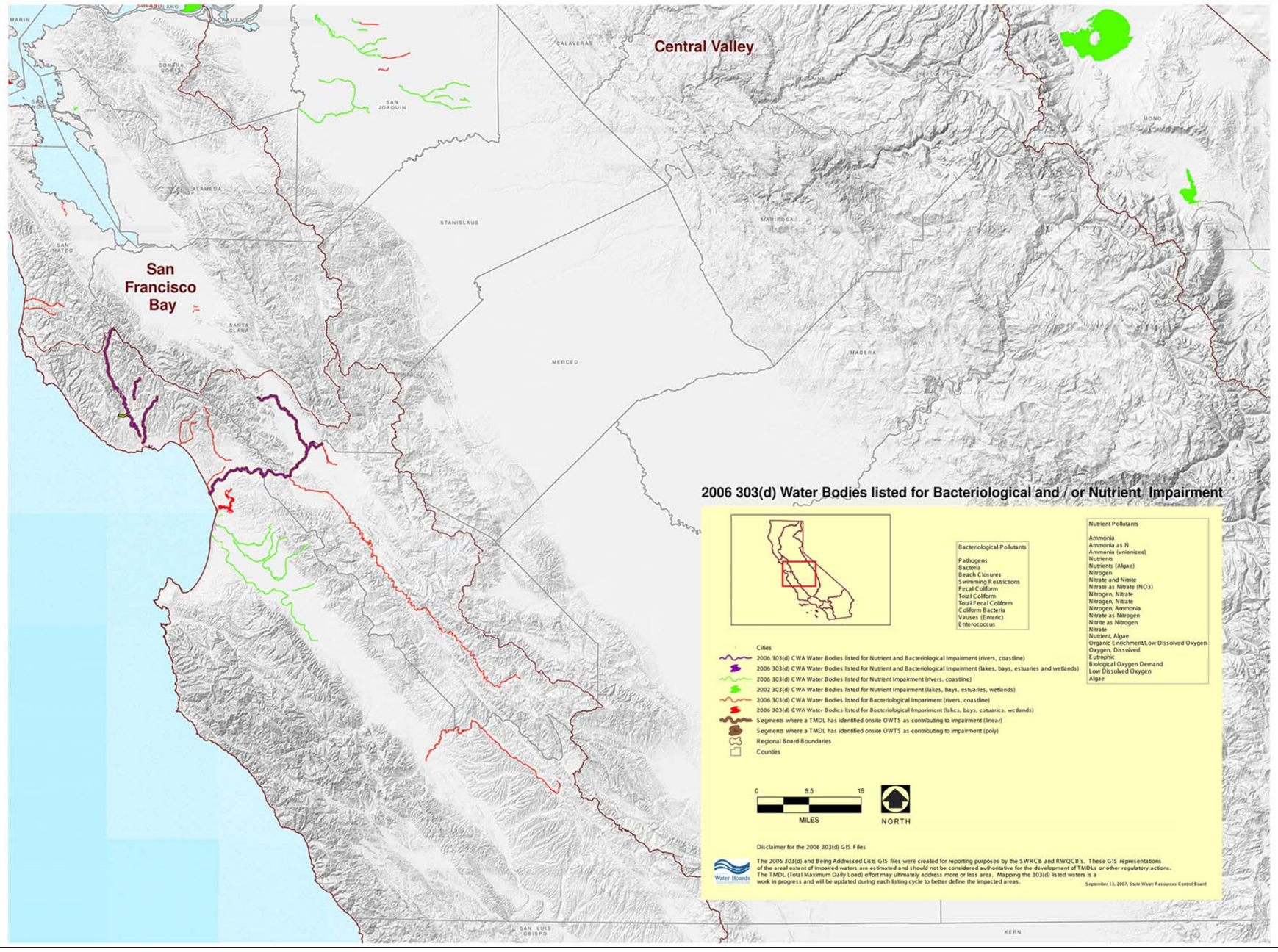

2006 303(d) Water Bodies listed for Bacteriological and/or Nutrient Impairment

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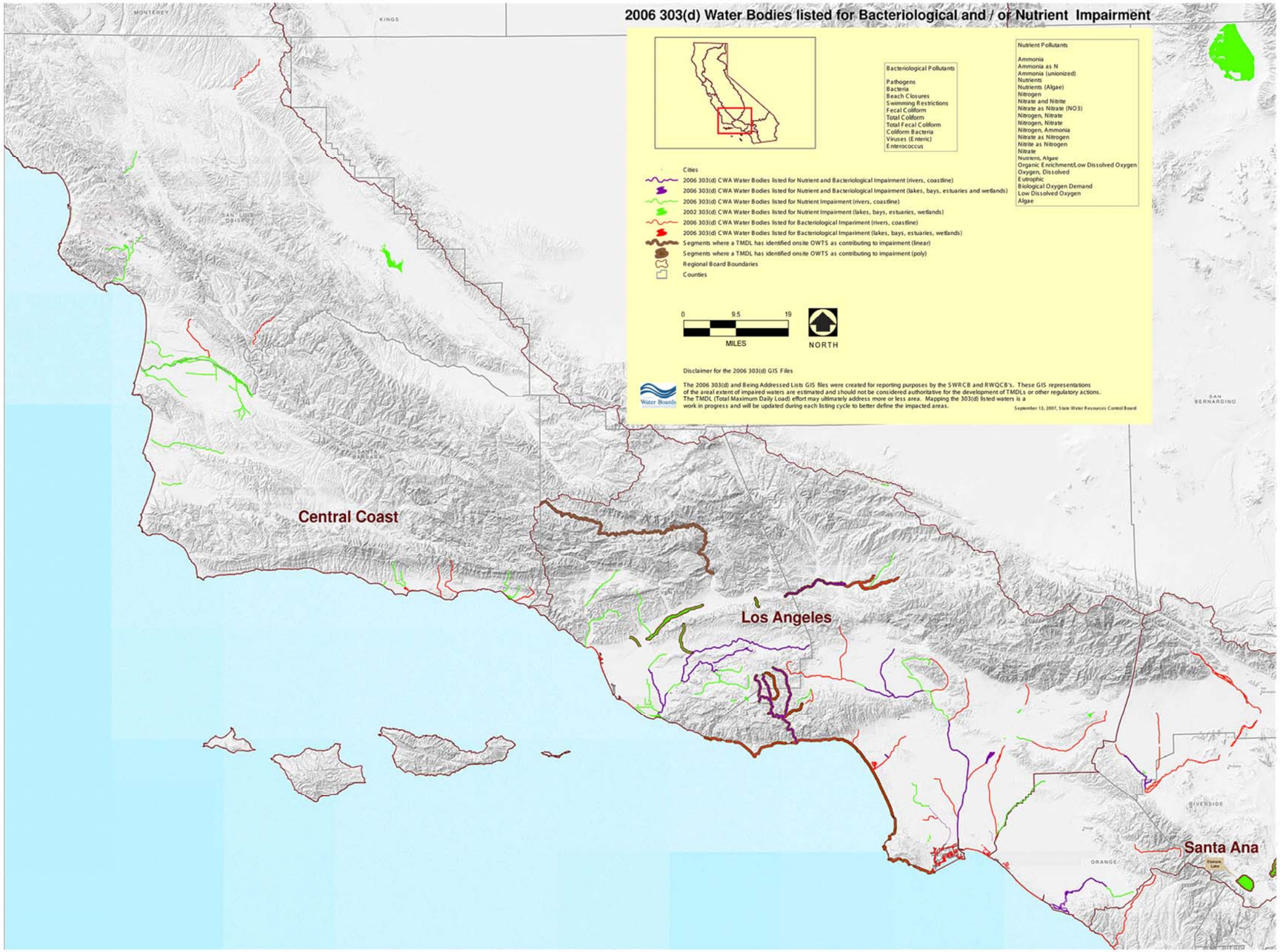
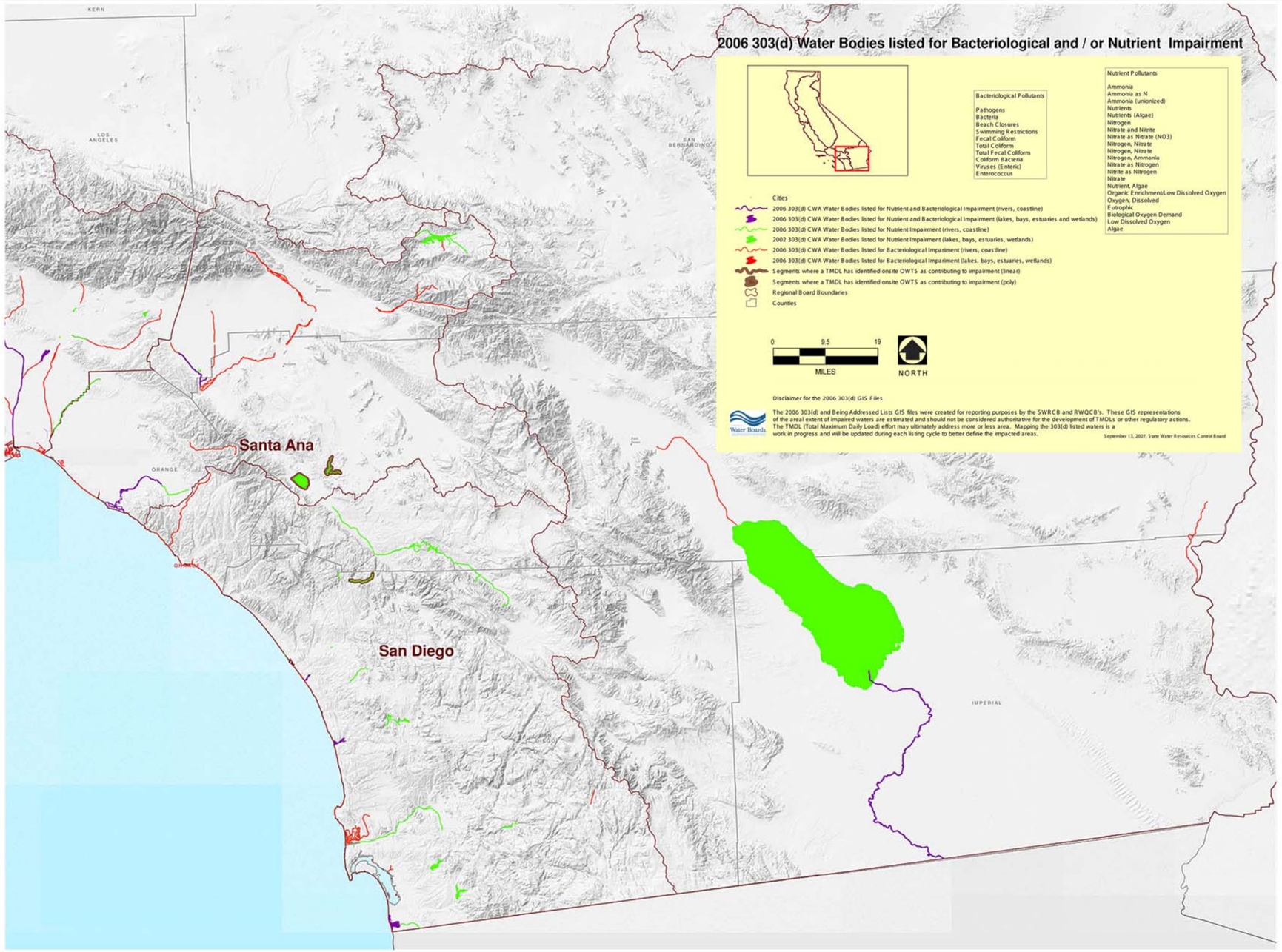


2006 303(d) Water Bodies listed for Bacteriological and/or Nutrient Impairment **Exhibit 3-1e**



2006 303(d) Water Bodies listed for Bacteriological and/or Nutrient Impairment

Exhibit 3-1f